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The object of the Association is to promote the preservation, by wise use, and the extension of the forests of the United States; its means are agitation and education; it seeks to encourage the application of forestry by private owners to forest holdings, large or small; and it favors, especially, the establishment and multiplication of National and State forests, to be administered in the highest interests of all.

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THOMAS ELMER WILL

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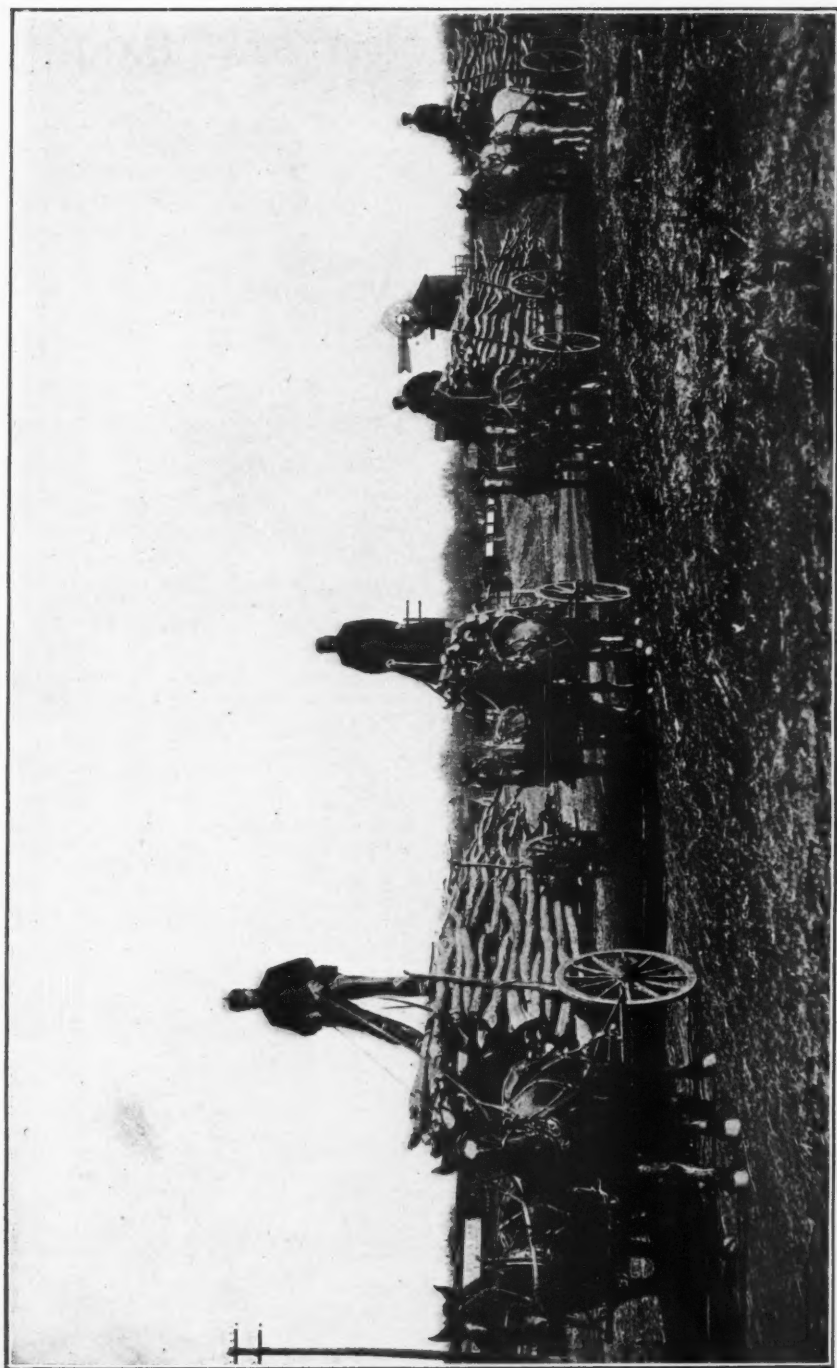
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(See page 425.) Hauling posts and poles from the C. D. Robinson hardy catalpa plantation, Pawnee City, Nebraska.

FORESTRY AND IRRIGATION

VOL. XIII

AUGUST, 1907

No. 8

EDITORIAL

Federal "Encroachment" in Western States

Stress has been laid by some upon Federal "encroachment" upon certain Western States occupied by National Forests. For instance, a map of Idaho, mutilated by cutting out the National Forest area, was exhibited at the recent Denver convention. Attention was called to the fact that nearly one-fourth of the State of Colorado is also in National Forests.

Well, what of it? If this area were actually subtracted from the State, Colorado would still be larger than the eight States of Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New Jersey and Delaware. But this area instead of being subtracted from the State is being preserved from destruction and made available for the highest use of the people within and without the State.

Sections or Interests

The *New York Nation* says: "It is a fact to be faced that the President's forestry and land law policy must be carried on or extended in the face of opposition from most of the communities directly concerned. That

means, among other things, that the Eastern men in Congress and out, representing in this question, as they do, a truly National sentiment, should abandon their attitude of deference to the Westerner's supposedly superior qualifications for dealing with the subject."

The *Nation* need not be hard on the Westerners. There are Westerners and Westerners. The writer of these lines is a Westerner. It is needful only to distinguish between the handful of Westerners, already not infrequently over-rich but eager to feather still more completely their own nests, and the great body of Westerners who earnestly and patriotically believe in the public welfare. Some of this second class can be deceived by some of the first; and, in this regard, conditions in the West, with respect to public questions, are not greatly dissimilar from those in the East. In either section all that is necessary is to turn on the light. Give the people the facts. When once they have digested them rest assured that the majority will take their stand, resolutely and immovably, for policies which mean not the enrichment of the few at the expense of the many, but the largest good of all.

Land Hunger Home-seekers flocked into Montana for the drawing of lands in the Huntley irrigation project. In one day more than 1,000 home-seekers arrived.

Ten or fifteen years ago it was thought that the Western movement of our population had, at last, about ended. Results following the reclamation of arid lands show how superficial was this view.

From the day when Abraham went out of Ur of the Chaldees to seek another country farther West, or waves of Aryans flowed from their home beyond the Hindoo-Koosh successively into India, Greece, Rome, and the countries of central Europe, down through the period when Europe itself sought largely to empty its population into America, and Americans poured in endless streams up the Potomac, along the Cumberland road, into the great Northwest territory, or overland, or across the Isthmus, or around the Horn into California and, after this, from both East and West, spread themselves over the great plains and climbed the mountain sides, until now when they migrate from Middle Western States into Canada, man has been a land-hungry animal.

And little wonder! The earth is the storehouse from which our supplies are drawn. Cut off from it, man is like a fish out of water or a clipped, caged eagle. Directly or indirectly, man must get at the earth or perish. When, some years ago, the last of the public domain worth having had apparently disappeared, clouds gathered on the horizon. Economic pressure began to intensify. Then came the reclamation movement. Already it is furnishing relief. Its possibilities are great. Nevertheless, while rejoicing in these, we should not overlook the Census figures showing the increase in our population for a century past. However much land we may reclaim, rest assured there will be plenty of people to occupy it all and to call for more. Wisdom dictates that we should look well ahead.

Tax Sale Land for Forests The legislature of Wisconsin has appropriated \$10,000 for the purchase of land at tax sales. Whatever land any county becomes possessed of, from non-payment of taxes, must be offered to the Public Land Commissioners before it can be sold to anybody else. This applies to all counties north of Town 33, and the land so purchased is to be added to the State Forest Reserves.

The legislature of Wisconsin is to be commended for having enacted a law so wise and statesmanlike. Entirely too much of the land in this country has been permitted to pass into private ownership. The time has come when continuous and systematic effort must be made to transfer certain types of land from private to public ownership. The sale of land for taxes affords an opportunity. Our information is that large tracts of timber land in Wisconsin have been secured in the past by individuals and corporations simply for the timber; that the timber has been cut, the ground not infrequently burned over, and the land abandoned to be sold for taxes. To interpose after the mischief has been wrought is much like locking the stable after the horse has been stolen. At the same time, it is better to begin late than never. Since the State had not the foresight to prevent despoliation of its forests, it should be commended for now making the best of a bad situation. Much of this tax sale land, when purchased by the public land commissioners, will doubtless be reforested. This, certainly, is better than leaving it a virtual desert. Other States might well take similar action.

Sow the Seed In our June issue, we published a paper entitled "Save The Forests in The Appalachian and White Mountains." This little folder, we believe, should be widely distributed. Its map, alone, is eloquent. It shows the existing National Forests, the area these would occupy if massed together, the

fact that all our National Forests are in the West while the bulk of our population is in the East, and the proposed White Mountain and Appalachian National Forest area. The folder contains the arguments which we believe should be before the people. Members of the Association can materially aid the work the Association is endeavoring to do by distributing this folder. Let every member send a copy of the folder, with a strong letter, to his member of Congress. The writer has done this with his own member and received a courteous reply to the effect that the member will carefully investigate the merits of the bill. If all Congressmen will do the same we ask no more. If any think it early to begin working upon Congressmen, remember that most of our members began, last year, too late. Furthermore, now, in the absence of the rush attending the session, it is far more likely that the Congressmen will read the paper than after the session has begun.

Members should also carry the folder to the editors of their local or city papers and have extracts from it published. They should place it in the hands of influential citizens, ask them to study it and write their Congressmen urging the passage of the Appalachian Bill. Members should carry copies of this folder in their pockets and distribute them, as opportunity affords, to possible converts and workers. It is this spirit of "All at it and always at it" that wins. Waiting for good legislation to come of itself is like "waiting for something to turn up;" and the old farmer described this is follows:

"Jawn, don't wait for sumptin' to turn up. I'd as lief set down on a stone in the middle of a medder, with a pail atwixt my legs, and wait for the old cow to back up to me to git milked."

The Appalachian folder may be ordered from the National office at thirty-five cents per hundred copies.

Working While We Play

Summer is our National play-time. So largely do many of our people spend the summer and early fall in relaxation that, in many lines of activity, the summer is a dull season. Movements, especially of a philanthropic, benevolent, and civic character, are liable to suffer in consequence; incomes shrink, letters remain unanswered, and a condition ranging from apathy to semi-paralysis impairs their efforts.

In a very special sense, however, such conditions should not apply to the forestry movement. Those of our members and friends who do not continue at their regular places of business are likely, in many cases, to be found at the seaside, in the mountains and forests, or traveling abroad.

Thus engaged, there are reasons why they should be more serviceable to the forestry movement than when at home. In the first place, they are not burdened with work; in the second place, they now have the opportunity, which in the hurly-burly and rush of modern city life is too rarely possible, to respond to the fascinating and imperious "call of the wild," to come into contact with nature, to see the woods, the flowers, the streams, and waterfalls, to draw, like Antaeus of old, new strength and vigor from Mother Earth, and to appreciate more fully the significance and value of outdoor life and of contact with the heart of nature.

Thus circumstanced, one's interest in a cause such as that of forestry, instead of waning, should be intensified; he should feel, as is well-nigh impossible when absorbed in the "dry drudgery of the desk's dead wood," the far-reaching importance of protecting nature from the ravages of man; of saving our forests and trees, our waterfalls, our mountain glens and grots, and the endless objects of natural beauty and utility, from exploitation and destruction by mere money grabbers mad in the chase for the almighty dollar. He should reflect that the

preservation and perpetuation of these objects is rendered possible only by organized effort and by activity which results in the development of right public sentiment and in the enactment and enforcement of appropriate legislation. His interest in the sentimental and practical side of the forestry movement he should be able to communicate to his friends and companions. Without effort and without expense, but in the most natural way, he should be able, during his vacation, as at no other time, to raise up friends and enthusiastic supporters for the forestry movement.

One live forestry worker at a mountain resort should be able to accomplish splendid results. Take, for example, one spending his vacation in the White Mountains. He is staying at one of the hotels. Daily he looks out in one direction upon scenes of almost unsurpassed loveliness and, in another, upon hideous specters, where nature's beauty has been transformed by the ruthlessness of man into sights which should cause sadness and shame to every right-thinking citizen. What better text could one desire from which to preach a sermon on the importance of forest preservation? Through casual, occasional conversation, what converts might not be made among guests and, especially, among hotel proprietors whose business interests are menaced!

Our forests can be preserved only by work; and, when work can be done in playtime and almost without effort, why should it not be done and done effectively?

**Fifteenth
National
Irrigation
Congress**

Elsewhere in our columns will be found mention of the official call of the National Irrigation Congress. On July 6th the Executive Committee of this Congress met in the Auditorium Hotel, Chicago, to consider the program and preliminaries of the Congress. There were present Messrs. W. A. Beard, Chairman, Sacramento, Cal.; G. H. Ander-

son, Secretary, Chicago; Alex. A. Norton, Assistant Secretary, Chicago; B. A. Fowler, Arizona; Sherman G. Spurr, Wisconsin; John Henry Smith, Utah; John W. Wade, State Engineer, Montana; Samuel H. Lea, State Engineer, South Dakota; Dr. Elwood Mead, Chief of Irrigation and Drainage Investigations, U. S. Dept. of Agriculture, Washington; and Prof. J. D. Towar, Director-Elect, Experiment Station, Wyoming. By invitation, the editor of this publication was also present.

The utmost harmony marked the proceedings. Careful attention was given to the question of program. Large place will be provided for forestry as well as for irrigation. This is in harmony with the four great objects of the Congress as declared in the call, namely, to "save the forests, store the floods, reclaim the deserts, and make homes on the land." The drainage question will also receive attention. Opportunity will be afforded to discuss the burning issue of Government control of grazing. Not only National but State and private irrigation work will receive attention.

As becomes a body which was largely instrumental in bringing about the great work of National reclamation, the Congress is making large preparations. Its management believe that the coming Congress will be one of the most important conventions ever held in the United States. The character and personnel of the gathering will be striking. Constructive statesmanship will be represented by some of the best known and ablest men in public life, from every part of the United States.

The list of delegates, thus far appointed, may be described as in itself an epitome of all that is best and most potential in the political, social, and scientific life of the country. The scenic possibilities of the Congress are receiving careful attention. The progress of irrigation from the days of antiquity to the present time, the development of forestry, and the prac-

tical achievements of these and kindred movements will be represented by magnificent floats, resplendent with allegorical figures and groups. It is hoped that a stereopticon lecture illustrating irrigation and another illustrating forestry may be given on two of the evenings. Another evening will be devoted to the reception of the delegates by the local citizens.

Special excursions will enable delegates to see California, including the Sacramento and San Joaquin Valleys, with their great farms, vineyards, orchards and irrigation districts. They will penetrate the mountains, pass through magnificent pine forests and mining regions into the famous vintage districts and giant redwoods of the north coast counties, on to the beautiful Santa Clara and other valleys of the south coast, to the Yuma project and Imperial Valley, where national irrigation is transforming the desert into a garden. They will extend to the Klamath country where the National Government is building in California and Oregon a great irrigation system, to the Truckee-Carson irrigation project in Nevada and on to the great mining districts of southern Nevada.

Special railway rates have been made for delegates to the Congress and will prevail over all trans-continental lines. Delegates who desire may come via Los Angeles and return via Portland, or vice versa, and thereby traverse the entire Pacific coast of the United States.

Information relative to the Congress may be had from the Irrigation Congress Headquarters, Sacramento, California. Altogether, the Congress promises to be one of great interest and importance.

Government Functions

The *Albuquerque Journal*, New Mexico, says it has had the good fortune to assist in booming every session of the Irrigation Congress that has been held. Years ago it urged the reclamation of arid lands by the Gov-

ernment. "Fifteen years ago," says the *Journal*, it "was regarded as very rash, almost socialistic—paternalistic, at least—to advocate the reclamation of our arid lands by the National Government, but now that work is looked upon as a function of the Government at Washington just as legitimate as the carrying of the mails. The world does move."

In the last quarter century public sentiment throughout the civilized world has undergone a virtual revolution with respect to the question of "government functions." It was in 1776, the same year that witnessed our Declaration of Independence, that Adam Smith published his "Wealth of Nations." In a measure, this book reflected the views of the French Physiocrats, the acquaintance of some of whom Smith made while visiting the Continent. Following Smith came Ricardo (1817), J. B. Say, Jeremy Bentham, James Mill, and Thomas Robert Malthus. Later came John Stuart Mill, who formulated, systematized, and re-enforced the teachings of his illustrious predecessors. His "Principles of Political Economy" was published in 1848. In 1850 Herbert Spencer published his "Social Statics," most logical of all the books named and the most extreme.

This whole school of thinkers minimized the place and power of government. To them government was little more than a policeman. Practically all important activities outside of police and military administration were, in their judgment, properly private. Free and unlimited competition afforded the conditions under which "natural laws" would work with least obstruction and the highest degree of human happiness would be guaranteed. Government was expected to enforce fair play amongst the competitors and, otherwise, to keep its hands off. For government, the Ten Commandments and the eleventh, all in one, were comprehended in the phrase, *Laissez faire*.

This doctrine was heralded through-

out Europe as the "*ne plus ultra*" of economic and political wisdom.

America took her economics, like her common law, from England, without changing the dotting of an "i" or the crossing of a "t"; and for years she resisted as pestilential any suggestions of a "higher criticism" in the economic realm. Practice, however, has never closely coincided with theory in America. Tariff, United States Bank, internal improvements, paper money, government aid to railroads, and countless other governmental acts have directly defied the *laissez faire* economics which college teachers all the while were gravely expounding.

In time, arose the German historical school; this attacked *Smithianism* as aggressively as classic economists had, heretofore, defended it. Historical economists, however, enjoyed the tremendous advantage of being able to point to facts, customs, and administrative policies all about them which agreed with their theories while running directly counter to the "orthodox" theories. Gradually, the dust has been permitted to accumulate upon the canons of Smith, Ricardo, and Malthus, until to-day, outside university lecture rooms, it is hardly extravagant to say that these are as unknown and unheeded as the traditional "blue laws" of New England or the precepts of the Koran.

National irrigation, regulation of railway rates, public care for inland waterways, and national forest preservation and extension are but samples of an endless catalogue of things which, though in daily practice in all advanced countries, are enough to make Smith, Ricardo, Spencer, and like advocates of a do-nothing government turn over in their graves. While enjoying theory it is a characteristic of the Anglo-Saxon people not to be bound by it. Their temper, instead, is essentially practical. They recognize an end as desirable; then they look about them for appropriate means. If these means prove practicable and the

experiment succeeds, the university professor is at liberty to come around, in due time, overhaul and revamp his theories to fit the existing facts, and launch a new "infallible orthodoxy."

Such a work as that now in progress under the auspices of the Reclamation Service is a tremendous fact. Converting the desert into a fruitful field, and making the wilderness and the solitary place to be glad is an accomplishment of such moment that, now that its success is being demonstrated, criticism hides its face and sits speechless. That such a work does not square with the old political economy is simply so much the worse for such political economy. To the extent of their light and knowledge, the American people will make of this continent a progressively more and more fit habitation for the multiplied millions who must inhabit it; and the political economy which will not square with this situation must give place to one that will.

"Development Complaint is made that and Acquire- the present laws hinder ment of Title" "development and acquirement of title" to public lands by private citizens. "Quite true," says *Collier's Weekly*, "in so far as a certain kind of 'development and acquirement' is concerned. The acquirement of woodland in bulk by big timber corporations through fraudulent entry, which has been practised so extensively and so profitably in the Western States, will be decidedly hindered by the new laws. Similarly, that form of 'development' which has skinned so large a part of the Eastern mountain ranges down to the merest scrub will be checked. Twenty years from now the Nation will be taxed to restore the woodlands which are to-day being so recklessly felled. Shortsighted, indeed, is a policy that permits ravages now which, in the future, must be paid for with many times compounded interest."

But this is not the whole story. From the tone assumed by some who

argue for "development and acquirement of title" in public property by private individuals and concerns, one might imagine that we were living at the close of the feudal era and that private ownership, private control and private initiative were the only forms of ownership, control and initiative worth considering.

Have we not, however, made some progress since the French Revolution? Is there not, in this modern age, such a thing as public ownership, control, initiative, and administration? Notwithstanding protests by individualists of the old school, led by Herbert Spencer and his Social Statics, have we not, to-day, such institutions as public schools, public parks and playgrounds, public postoffices, public fire departments, public law courts, a publicly created and controlled currency and a swarm of other public activities, local, municipal, State and National, notably those represented by the Departments in Washington?

The days of unrestricted individualism are past. The old-time talk about "that Government" being "best which governs least," is decidedly old-fashioned, as certain experiences had, in the last few years, by great industrial institutions should make clear. In addition to individuals there is, in this country, a public which also has rights that must be respected. In addition to the private questions that fill the horizon of some, there are great public questions that can no longer be ignored.

The question of conserving the Nation's wood supply is a public question; the question of controlling the floods is not a matter to be left to the whims or the individual, personal interests of John Doe or Richard Roe; the question of anarchy on the open public range is as much a matter of public concern as is that of brawls in the public streets. The public safety is the supreme law. The public well-being is the chief concern of Government; otherwise, we might well inquire with the anarchist, "Why Government at all?"

The eternal talk in certain quarters of "development, and acquirement of title," conduces to weariness. Suppose some individual or concern proposed to "develop, and acquire title" to a section of Pennsylvania Avenue, or Boston Common, or Lincoln Park, Chicago, or the Yellowstone National Park, or a great National cemetery, or an experiment station; how many intelligent men would listen seriously to his clatter? The private interest side in this country has already been considerably overdone; "the time is ripe, and rotten ripe," for attention to the other side. We welcome the challenge. Let those who conceive the interests of the individual or the corporation to be greater than those of the 80,000,000 people who constitute the American Republic state their case. They will be heard, undoubtedly; but their jury will be the eighty millions aforesaid.

The Need for Inland Waterways

The Outlook for July 20th speaks, editorially, of the attempt to develop

water transportation facilities west of the Mississippi River. For rate-making purposes between the East and West halves of the United States the Mississippi River is the dividing line. One rate prevails east of the river; another west. A Kansas City wholesale firm paying \$60,000 for freight from New York, found that \$35,000 of this was consumed by the long haul from New York to St. Louis, while \$25,000, or over 41 per cent, was required for the short haul from St. Louis to Kansas City. Furthermore, the congestion of traffic rendered transportation very slow. So general was the dissatisfaction among business men that a large number combined to organize the Kansas City Transportation and Steamship Co. as a co-operative concern to engage in the river trade between Kansas City and St. Louis. The navigation of the Missouri had long since been abandoned; boats there were none, snags had accumulated in the channel, and the river was not lighted. It

was found necessary to purchase boats, two costing \$40,000, and to run by daylight only; nevertheless, the boats have been able to cover the distance upstream from St. Louis to Kansas City in six days, and from Kansas City downstream to St. Louis in four days. This is better time than is often made by the railroads. It is hoped, furthermore, to cut the freight-rate about one-third. The Company contemplates purchasing two more boats and, ultimately, so increasing the service as to force the railways to meet the river competition.

All of this is an interesting commentary upon the President's plan, in appointing the Inland Waterways Commission, to investigate the possibilities of river transportation, and so to develop these possibilities as materially to increase the transportation facilities and reduce the rates on internal commerce.

It should never be forgotten that water transportation preceded rail; that, in all lands and ages, transportation by water has been popular because of its cheapness and convenience. One reason why Greece, for a period, led the world, was because, with its multitude of deep bays and inlets, abundant facilities were provided for water transportation. The great civilizations preceding those of the modern world grew up about the Mediterranean Sea, for ages the world's great highway. Modern civilization has flourished most near the water. The Free Cities of the Middle Ages and the towns of the Hanseatic League made large use of available facilities for water transportation. No small part of England's power has rested on her navy and merchant marine. Civilization in the American Colonies and States was well developed along the sea-coast and eastern and southern rivers when the interior was still largely a howling wilderness. Furthermore, the wonderful work done by Marquette, La Salle, Hennepin, and the other early Jesuits in the way of exploring the interior, would

have been impossible but for the inland waterways. These intrepid men, pushing their way to the headwaters of these streams, carrying their canoes across portages and then descending other streams, early penetrated to the very heart of the continent, and rendered possible moves of far-reaching importance on the international chess-board.

Great credit should, it is true, be allowed the railroads for their part in developing this great interior. Nevertheless, their system has stood as a rival of the waterways system; and, as the one has advanced, the other has, in large measure, declined. The consequence is that, with the vast enlargement of railway interests, our rivers have in a measure passed into disuse. Note, for example, the striking fact that the navigation of the Missouri between St. Louis and Kansas City has long been abandoned; and the almost startling fact, revealed by the recent visit of the Inland Waterways Commission, that the great Mississippi itself has become, for transportation purposes, a back-number.

That such conditions should continue is preposterous. What is true of forests is true of rivers and of all the other natural resources of our great country; they exist for use, not for abandonment, for abuse, nor even for the mere enrichment of private individuals and corporations. This country belongs to its inhabitants, and it is for them to make the most of it. Our Government is a republic and, subject only to the limitations fixed by Nature and her laws, the people may do what they please with their heritage. Rest assured that they have but to see what is possible and they will proceed, in due time, to transform the merely possible into the actual.

The Appalachian Campaign

Attention is again called to the needs of the Appalachian campaign. As FORESTRY AND IRRIGATION is endeavoring to make plain, the Appalachian measure is one of no small moment.

Ignore it as we may, the fact remains that, in a vital sense, the future of New England and the South largely depends upon the saving of the forests upon the White and Southern Appalachian Mountains. To destroy these forests is to destroy the very foundations upon which must be built the future of these sections.

If any outside New England and the South feel indifferent they should recall that in the Southern Appalachian Mountains is found our last remaining important stand of hard woods. The destruction of these must affect the well being of the entire United States. Even were this not true, the menace threatening the two sections named should impress every informed and patriotic American citizen. If any there be whose patriotism is confined to regard for his own section let him remember the words of Cimon of Athens. Sparta, in the throes of a servile revolt, called upon Athens for help. Fearing the rivalry of Sparta, Pericles and Ephialtes advised that a deaf ear be turned to the call. But in words ever to be remembered Cimon, rising from local to national patriotism, exclaimed: "Let not Greece be lamed and Athens robbed of her yoke-fellow."

That Sparta proved ungrateful boots nothing in the present case. Happily for America, sectional rivalry within her boundaries is past. No section of this republic need grudge or fear the progress and prosperity either of New England or of the South. The welfare of these sections is the welfare of our whole nation. As Paul well said, "We are all members one of another;" and if one member suffer, all the other members must inevitably suffer with it. Do any imagine that the reclamation of western deserts will give advantage merely to the occupants of those regions? Does any one doubt, on the other hand, that such a work will infuse new life and add new vigor and power to our whole Nation? Conversely, can any one doubt that the

decay and ruin of any important section of our common country must infallibly weaken that country as a whole?

Evident in War

In war, the point would be obvious. Suppose this Nation were fated to engage, at an early day, in a prolonged and exhausting struggle with a powerful foreign foe; and that the issue of the contest would be doubtful. In such circumstances could any one doubt the desirability of strengthening every section of our country to its utmost, and of guarding at every point against any threatening weakness? As the strength of a chain is measured by that of its weakest link, would it not then be evident that the strength of our Nation would be measured by the strength of its weakest section upon which the strain of war might fall? Who then could sit unmoved before the prospect of the sapping of the vitality and the draining away of the strength of two great historical sections of our land?

But, although war does not now menace us, and God forbid that it ever again shall, who can guarantee us against its fell visitation? Glance the eye backward over a paltry dozen years of our national history. In that time we have engaged in two wars; and who does not recall one or two other occasions when, like a thunder clap out of a clear sky, a note resembling the call to arms was sounded? Is not the jingo press even now trying to embroil us in war with a peaceful but in no sense petty power? Have we considered the possibilities of such a contest, should any be so criminal as to bring it upon us? Do we forget that now, as never before in history, the nations of the world are prepared for a struggle whose possible results are too fearful to contemplate? Who knows what alliances and counter alliances might accompany such a conflict? When the States General convened in France, in 1789, who could have predicted that in a bare quad-

rennium she would be confronted by the allied forces of all Europe? Had France then any strength to spare? And with all our vast resources and unsearched might who can say that in such a test of strength we would have resources and energies to spare?

But if, as none can dispute, the solidarity argument in the face of a foreign war is unanswerable, is it not equally unanswerable in time of peace? If, in the face of war, the fact of our National unity is evident, is it less evident in the face of peace? If we are one for destruction are we not likewise one for construction? If we are one to chasten and blast are we not likewise one to bless and build?

We are one. Let none deny or minimize the mighty fact. And the corollaries of this fact we must recognize. The hand cannot say to the foot, "I have no need of thee," nor the eye to the ear, "I have no need of thee." The well-being of the denizen of the everglades of Florida is of moment to the dweller by Vancouver's Sound: the weal or woe of the citizen of Maine is a matter of concern to the citizens of California.

Equip Us For the Task The Appalachian campaign is not proceeding with the energy that should characterize it. Too many think, evidently, that there is "time enough yet;" too many are tarrying one for another; too many are indifferent; too many are otherwise occupied; too many are willing to accept either success or failure, as a matter of course.

This is not true of all. There are some who are deeply, genuinely, vitally interested; who grasp the magnitude of the interests at stake and who are willing to spend and be spent in this cause. May their tribe increase! Let those who can, speak or write; let them build every man over against his own house; let each use whatever tool or weapon is most available, and agitate and educate in whatever way he may find most effective.

But this must not, for a moment, blind our eyes to the fact that the present is an age of organized effort. Great works are performed not by

one, but by many. If the many are to be other than a mob, they must be organized. If their efforts are to be effective, they must be directed from a common center.

With many State and local organizations, there is in this country one National organization concerned with the work of forestry. It is concentrating largely upon this Appalachian question. To the measure of its means and strength, it is endeavoring to arouse the public to the importance of this issue. But what it is doing is as nothing in comparison with what it should and might do; its means, however, are gravely limited. To bring a question before eighty million people and keep it there, in the midst of the kaleidoscope of competing interests, issues and attractions, is a herculean task. Not only so but, without adequate funds, it is impossible. Yet to save the day this should be done.

There are those who are able to equip the office of the American Forestry Association to do this work. There are single individuals who alone could supply every need for such a campaign. There are others, less powerful economically, a few of whom could meet every requirement. There are larger numbers who, by doing each a little, could provide this office with a fund which would enable it to arouse the country to the importance of this question.

The Association has already appealed for funds with which to press the Appalachian campaign. There has been some response, yet it has been pitifully inadequate. We appeal again. We urge every one, rich or poor, interested or disinterested, who realizes the need, to contribute to the Appalachian fund of the American Forestry Association. Enable it to send out its literature and speakers, to invade the press, and sow the land broadcast with facts and arguments, to the end that it may save New England and the South from the shadow overhanging them, and preserve, to all coming time, the resources and the beauties of our great eastern mountains and of the valleys dependent thereupon.

NEWS AND NOTES

Fourth of July at Carlsbad Our July issue mentioned the projected irrigation celebration on the Fourth of July, at Carlsbad, New Mexico. Eight thousand people, from all parts of New Mexico, were present during the three days of the celebration. These irrigation projects have cost the Government nearly a million dollars and irrigate portions of the Pecos Valley for nearly ninety miles.

Census of Timber Products for 1906 Preliminary reports continue to be issued on different sections of this Census. One is on hewed and sawed cross-ties; one on tight cooperage stock; others on tanbark and extract, telegraphic and other electric poles, slack cooperage stock and wood distillation.

The Star for Forestry The Kansas City Weekly *Star* of July 10th published a three-column, illustrated story, on "Forestry in Kansas." This is followed with a strong, half-column editorial on "The Duty of Planting Forests." It urged the importance of the woodlot, of the preservation and extension of forest areas, the profit to the individual in wood culture, the work of the Forest Service, and the willingness and desire of this Government bureau to aid farmers and others in promoting these policies.

Waste, Then Want The forest devastation that is now going on in New Hampshire is typical, says the Worcester, Mass., *Post*, of that prevalent all over the country where the great lumber concerns have a foothold. In the White Mountains the lumber kings are cutting off every stick of growing timber, down to the smallest saplings that can be used for pulp wood or other purposes. Of course, they are making no effort whatever to provide for reforesting. It costs on an average 75 to 125 per cent more to build a house now than it did 15 or 20 years ago.

Fire Insurance for Forests While fire insurance is applied to almost every other valuable property, owners of standing timber have been unable to secure such protection, and it has been with great difficulty, if at all, that insurance could be obtained on logs, cord wood and sawed lumber exposed to forest fires. Notice was recently made in these columns of a German system of forest fire insurance. Now, however, such insurance can be had in America. On our advertising pages will be noticed the announcement of Mr. L. D. Van Rensselaer, of New York, for insurance against fire for standing timber and for timber products in forests.

Rich Forests in Texas Texas is a large timber State. Its forests are one of its greatest resources. Much lumber has been wasted by clearing simply for cultivation. The Texas people are now beginning to realize the importance of conserving this wealth. Some parts of the State are treeless, and tree planting has to be done. In the Panhandle region, in the spring of 1906, over 500,000 trees were set out.

Three-Fourths Live in the East Mr. Wm. L. Hall, while in New England in connection with the White Mountain Survey, gave an address at Springfield, Mass., which attracted attention. He mentioned that though there are no National Forests east of the Mississippi, three-fourths of the population of the country live in that section, and it contains more than three-fourths of the wood-consuming industries.

Plenty to See The *Boston Journal* rejoices that the White Mountain forest survey is beginning. The commissioner, it says, "will find that frightful slaughter of the trees has been and is still going on in the northerly slopes of the Presidential range. He will discover

a like state of affairs in the great wild region between the Franconia and the Crawford notches. Everywhere he will run into visible evidences of the determined effort to get all the timber possible from the noble White hills before Congress shall stay the axes and saws of the big lumber concerns.

"Really, it needs no expert investigation on the part of the Washington emissary. All he need do is to travel about a little and use his eyes. We can tell in advance exactly what his report will be. May it be powerful enough to compel the next session of Congress to quick and decided action."

Economy Now Necessary The Pennsylvania Railroad Company is sending out to the men who furnish railroad ties this warning: "Husband your timber. Saw your ties. Don't hew."

It is explained that by hewing from a stick of timber sixteen feet long and fifteen inches wide only two ties can be made. By sawing the stick four ties can be made and fifty-seven feet of marketable lumber had.

It was not so long ago that such a warning would have been considered useless. It is now necessary.

Material for Houses

Mr. Maurice M. Wall, of Buffalo, one of the foremost of American lumbermen, has recently uttered a loud protest against despoliation of the forests. One special reason given why lumbering should have been carefully regarded in this country is its use in dwelling houses. In no European country are frame houses so numerous as in America. The frame house in some countries is unknown. Here many of our dwellings, with the exception of plaster and foundation, are all wood within and without.

It Takes Some Fighting

"Those who care whether or not we make this goodly country of ours into a Syria, a Spain, or a China,

must show the faith that is in them by getting on to the firing line, or ranking well up in the reserves that must be massed for the final attack," says *Woodland and Roadside*. "We are too prone in America to think that when we have signed a petition or voted for a resolution our responsibility has ended; but in a democracy all legislation is the result of compromises between contending interests, and to secure the enactment into law of a measure of public interest means vigorous effort and sometimes a hard fight."

Worst to Come

The Georgia-Florida Sawmill Association has decided to shut down all its associated mills on the first of August on account of the low price of lumber. With the stock on hand and the independent mills it is probable the consuming public can get all the lumber it can pay for even at the present distressingly low prices.—*Tampa Times*.

This must be on the basis of comparison with future prices. Cheer up! The worst is yet to come.

State Forestry Schools

A Forestry School has been established in connection with the Agricultural College of the State of Washington. Professor W. S. Thornber is in charge.

The Michigan State Agricultural College recently celebrated its fiftieth anniversary. The present year brings the fifteenth anniversary of the forestry course. This is one of the four courses of four years each offered by the college. It has enjoyed popularity from the beginning, and the graduates have found ready employment in their profession.

Not in the Way of Home Building The following is found in the *Portland Oregonian*:

"Nearly all those who have protested against the creation of forest reserves do so upon the ground that such action restricts home-building. There

is no foundation for this objection, for two reasons: (1) the creation of a reserve does not prevent settlement, and (2) as a rule there are very few places in the reserves where any one wants to make a home. The Department has many times declared its policy of removing from the limits of a reserve all lands that are wanted for settlement. This policy was announced in the letter written by the President, when he issued the last of his proclamations. Practically the same attitude was shown in the statement made to Senator Bourne recently, when he inquired regarding the rights of those who have already made settlements but have not acquired title. The Government is not standing in the way of any home-builder."

Will Re-build Pulp Mill Directors of the Green Mountain Pulp Mill Company, after several days' discussion, have decided to rebuild the mill, at Middlebury, Vt., which was burned some time ago. Several industries throughout the State have been trying to buy or lease the extensive water-power which operated the burned mill.

Such a water-power is valuable—now. But what will it be worth when the White Mountains are bare of trees and the rivers are nothing but annual freshets?

Investigate Reforesting in Michigan A bill providing for a commission of nine members to investigate thoroughly the question of reforesting the State has passed the Michigan senate. It calls for a commission of nine members to serve without pay, who shall report to the next legislature on some comprehensive plan for restocking the forests of the State.

Michigan Forest Reservation A bill to meet an unusual situation was passed by the Michigan Legislature. It withdraws from sale 40,000 acres of agricultural college lands

in Iosco and Alcona Counties. These lands have more or less timber on them, and the plan is to turn them into a State forest reservation. There were some reasons why that bill could not be rushed, and in the meantime timber men were understood to be getting ready to buy up a lot of these lands. To head these off the bill withdrawing the lands from the market was hustled through.

For the Timber Census At the request of the National Association of Box Manufacturers, the Cleveland Chamber of Commerce voted to request the Congressmen from the Cleveland District to support a resolution to authorize the Bureau of the Census and the Forest Service to take a census of the exact amount of standing forest timber in the United States.

Irrigation By Pumping A few years ago the pumping of water for irrigation purposes was considered impracticable, if not impossible. To-day there are hundreds of pumping projects in successful operation.

The United States Government is installing great pumping stations for irrigation through the Reclamation Service. The rice fields of Louisiana are almost all covered with water lifted over the dykes by giant pumps, and in turn drained by the same method. By an international agreement between the United States and Mexico all the water taken from the Rio Grande for irrigation is diverted into the canals by pumps.

California probably has more irrigation pumping plants in successful operation than any other State.

Secretary Wilson Takes a Vacation Trip Secretary Wilson of the Department of Agriculture left Washington July 5, expecting to be away from his office for six weeks. He will personally inspect the National Forests of the West to find at first

hand how the policy of the department operates, and will particularly investigate denuded and untimbered regions where swift methods of afforesting are attempted. This absence from his office is considered by the Secretary as his vacation for the year, although it will be actively spent in forestry research, largely in California. The Secretary said:

"The greatest need that I see right now is in the improvement of the method of growing trees wholesale from the seed. The method of replenishing the forests by setting out small trees is too slow and too tedious. I would like to sow the seeds for the future forests as I would sow wheat; and to do the work so effectively that the Forest Service could go out and plant hundreds of thousands of acres in a single season. * * * I will look particularly into this phase of the work on my present trip. The National Forests have been under this department two years, and in that time I have had no opportunity of visiting them. I want to see personally how our policies are working out and whether or not we are really conserving the forest lands for the actual home maker, preventing their acquisition by a few interests, and in the mean time utilizing their grazing and other resources to the best advantage."

Immense Dam at Standley Lake The *Engineering News* states that what the projectors call the largest earth dam ever built is to be undertaken at Standley Lake, about nine miles northwest of Denver, Colo., by the Denver Reservoir Irrigation Co. The dam will be $1\frac{1}{4}$ miles in length and 150 feet in height and will thus be a far larger structure than the proposed Gatun dam at Panama. It will have a concrete core wall. The lake formed behind it will cover about 2,000 acres and will store about 5,000,000,000 cubic feet of water, enough for the irrigation of over 100,000 acres of land lying below it.

There is already an extensive sys-

tem of ditches along the South Platte River, supplying farmers and truck gardeners in the neighborhood of Denver, but it does not have proper storage facilities.

The new dam will be constructed by the hydraulic fill method. About 8,000,000 cubic yards will be required in the construction, the dam being between 700 and 800 feet wide at the base. Construction will be commenced during the summer, and it is estimated that three years will suffice for its completion. The cost, covering also auxiliary works, is estimated to be between two and three million dollars.

Great Dam Made Greater The Wichita, Kansas, *Eagle*, for July 16th, says editorially: "The

Assouan dam across the Nile having developed no weakness during the few years of its operation and the benefits of its construction having been effectively demonstrated, the Egyptian government has decided to increase its height by twenty-two feet, which will be the means of increasing the amount of water impounded by two and a half times.

"This improvement will afford facilities for irrigating nearly 1,000,000 acres in the Nile Valley, in addition to that which has already been fertilized by this great engineering project, and it is estimated that the increased revenues of the cotton crop alone resulting from the proposed improvement will be considerably over \$15,000,000.

"The work of making this addition to the dam will consume six years and the cost will be about \$7,500,000 including damages for land appropriated by reason of the extension of the basin."

Floods in Germany, Poland and Silesia Associated Press dispatches of July 15th announced serious floods in Germany and neighboring countries. From six to eight inches of rain fell in the greater part of Germany during the three days preceding the dispatch, and as a result a

number of rivers overflowed their banks, carrying death and destruction in the surrounding country.

No less than a dozen minor railroad accidents from wash-outs were reported and dispatches from the country traversed by the swollen streams related the destruction of crops, dwelling houses and out-buildings.

The floods were especially severe in western Germany. Casualties to the number of fifty were reported, principally single persons caught by the waters and chiefly from the villages of Poland and Silesia. The capsizing of a boat on the Muggel Sea, near Berlin, resulted in two deaths. The crops in the province of Brandenburg were entirely ruined by the prolonged rain, the farmers having had only one day for harvesting.

News from Breslau reported the Oder as well out of its banks. The water stood three feet deep in the Ross market and neighboring streets.

The soldiers in the garrison were ordered out to assist the fire department in building a series of dams to prevent the further spread of the flood. Immense damage was caused to the merchandise stores and the warehouses on the river banks. The railroad station could be reached only in boats. Farm lands for a distance of 100 miles from Breslau were inundated and the grain crop was ruined. Cattle were swept away and several persons lost their lives in the river.

Almost the entire city of Glatz, Silesia, was under water from the flood. The depth ranged from a few inches in some places to six feet in others.

The Elbe and Westritz Rivers were in full flood. The railroad station of Dresden and the track were damaged and traffic was delayed.

As a result of the exceedingly heavy rains all the streams of Poland overflowed their banks. The water damaged the crops, a number of persons were drowned and many small houses were carried away.

Press Co-Operation

As a part of the educational campaign which the American Forestry

Association is conducting in the interest of forest conservation and extension, weekly press bulletins are being sent out to papers willing to co-operate. Among the many evidences that this step is appreciated by the press is the following editorial from the *Practical Farmer*, of Philadelphia:

The American Forestry Association has commenced a systematic education of the American public on the forestry question, asking the aid of the press of the country in spreading the much needed information on this subject among the people. In a word, the Association advocates the preservation by intelligent use and extension of the forests of the United States, as well as the application of scientific forestry by private owners of timber lands. The man whose farm is perhaps hundreds of miles from Government timber reservations or from other extensive areas of woodland, may not, and in many cases does not, realize that he has any interest, direct or indirect, in the matter. And yet if his farm be situated in one of the great river valleys he has a direct interest, which is in evidence in every spring freshet which overflows or threatens to overflow his farm and inflict a direct money loss on him. If his farm is not so situated, he still has an indirect interest due to the principle that the welfare of the individual is bound up in the welfare of the community, and that what directly injures one section, by community of interest, indirectly injures every other section. There is also another consideration in the preservation of our forest areas which does go directly into the pockets of all consumers, and that is the question of supply of lumber. Older farmers can remember the time when pine lumber at less than half the present cost was the main reliance for building operations, and when varieties of timber which are now in common use were then regarded as useless and un-

merchantable. Even the younger generation knows the steadily advancing prices in all kinds of wood and its manufactured forms within the last ten years. The supplanting of pine by other and coarser varieties of wood, and the constantly increasing price of all kinds of lumber, tell the story of the rapid depleting of our forests, and the price which every farmer and householder has to pay for that depletion. The manufacture of paper and pulp from wood is a comparatively recent development; yet thousands of acres of woodland have been laid low to supply that demand, and already the scarcity of material to fill that demand is being felt. And that one item is but a tithe of the demand made on our forests by the increasing wants of our modern civilization. So that the question of the preservation and renewing of our forests comes home to every person, because he has a vital interest in the proper solution of the problem. Timber robbery is akin to soil robbery. * * * It is time that the American people awoke to the necessity of proper timber preservation and renewal. The American Forestry Association has entered on a much needed campaign, and one which *The Practical Farmer* is pleased to encourage and help.

Needy Condition of Western Pennsylvania

"That western Pennsylvania and especially the Pittsburgh district, must take immediate action if they would relieve themselves from their deplorable liability to disastrous and life-destroying floods, is readily apparent and imminently important. In my investigations, starting in southern Georgia, I have found no such condition of almost absolute forest depletion as in this section."

These statements were made by Mr. Hall, commissioner in charge of the Appalachian forest investigations by the Government, before the Pittsburgh Chamber of Commerce, whose guest he was last month.

The Pittsburgh Chamber of Com-

merce has requested the Pennsylvania Forestry Association to co-operate with the United States in the examination of water sheds, and has asked the Federal Government to include the Allegheny River sources in the Appalachian forest survey. Unfortunately, the law providing for this survey restricts it to the regions south of Pennsylvania. It is to be wished that the Pennsylvania mountains might also be included. Word has been received from a number of Congressmen, however, indicating their interest in the movement and giving assurance of their efforts to have the Monongahela water shed included in the survey.

Pittsburg Aroused

The *Washington Post*, of July 16th, said editorially: "Pittsburg is contemplating an enterprise much more prodigious than the Chicago drainage canal or the underground subways of New York. It is estimated that in what is called the 'Pittsburg district' the property loss on account of floods during the month of March of the present year amounted to the gigantic sum of \$150,000,000, and this vast total does not include a particle of the enormous losses from floods on the Ohio below Pittsburg. The destruction by floods from Pittsburg to Cairo grow more extensive year by year, and Pittsburg's very existence is threatened.

"The watershed of the Allegheny and Monongahela Rivers covers an area of more than 20,000 square miles, once virgin forest; now comparatively barren of trees. The destruction of growing timber in this region occasions the disastrous floods below. It is computed that to restore the forests will require the planting of 2,000,000,000 trees, which would not be effective until fifteen years have elapsed.

"It is proposed to secure legislation conserving the forests, and then proceed to plant trees in the places now barren, over a territory more than one-half the area of the State of Ken-

tucky. It means vast expense and stupendous labor, but in the end it would amount to enormous saving, for floods have become annual visitors and more disastrous every year.

"What is now necessary at the headwaters of the Ohio will soon be required at the headwaters of the Tennessee. * * *

"The administration is doing great work to preserve the forests of the trans-Mississippi; but what is more urgently needed is the restoration of the forests of the Appalachian chain.

"Pittsburg is one of the richest towns in the world and should set about the work at once. If it concerned Chicago the work would already be half done."

Reserved From Grab "Man lives not by bread alone, but chiefly by catchwords," observed

Stevenson. *Collier's Weekly* remarks: "We are reminded of this astute observation by the harm which has already resulted to the public interest from one well-meant misnomer. 'Forest Reserve' as an official term has happily passed into the limbo of the obsolete, and in its place has arisen the truer phrase, 'National Forest,' but in the mean time scores of interest-serving politicians have seized upon it as a text for the claim that the country's vast open spaces are being 'reserved' from the people, and thousands of citizens have been deluded by their specious oratory into the mistaken belief that there has been a mysterious and sinister withdrawal by the President, from the public ownership, of something that ought rightfully to belong to the public.

"Consider this quotation, for example, from Senator Heyburn, one of the most active advocates of forest destruction: 'They will come and surround you with one of these beautiful estates—this waste of idleness and silence and unprofitableness—this game reserve.' By which he means the National Forest. In this one sentence are four radical misstatements.

The National Forest is not, in that sense, an 'estate;' it is not a waste of idleness, but an enterprise of industry for the nation's benefit by the forest rangers; it is not an area of unprofitableness, but of actual productiveness; and it is no more a 'game reserve' than the Atlantic Ocean or the Desert of Sahara. Because various private interests seek to destroy the vast forests of the rest of the country as they have already largely destroyed those of New York, New England and Pennsylvania, the Senatorial and other representatives of Prospective Grab lament that the National Forest is an unjust reserve. It is a reserve only in that it reserves what is the property of all from becoming the property of a few."

By what jugglery or psychological sleight-of-hand one can distort into "withdrawal from public ownership" the process of conserving permanently in public ownership should be explained by those who seek to perform the feat. The only attempt at explanation we have seen is found in confusing a handful of magnates and such everyday people as they can deceive with the whole people of the United States. That is, the theory seems to be that that which has been withdrawn from the "representatives of Prospective Grab" for the benefit of the whole people of the United States and their posterity for all time has been "withdrawn from public ownership." Surely, confusion of thought could no farther go.

Women Save a Great Reservoir

The work of four women saved the immense reservoir of the Wyoming Development Company, forty miles north of Laramie, from destruction. The water in this reservoir covers an area twenty-two miles in circumference and is held back by an earth dam a mile and a half long.

Miss Helen McGill, daughter of a ranchman, and Miss Wilberta Knight, of Laramie, were riding over the dam in the evening when they noticed that

the water had begun to cut a hole through the bank. The girls galloped to the home of the caretaker, but he was absent. Telephoning the nearest ranchman, ten miles away, they, with two other women, hurried back to the reservoir where two of them, with a team, hauled hay and threw eleven loads of it into the crevice, the other two shoveling dirt on the hay. At daybreak men arrived and finished the repair work.

Organize Locally

A professor in the State University of Kansas laments the ruthless mutilation of trees in his city; he declares that he suffers acutely when he sees limbs of magnificent maples sawed off at the trunk, and a lot of deformed cripples left to disgrace the city. He asks if the Association can propose a remedy for such abuse, against which there is at present no active public sentiment.

In such a case a local branch of the American Forestry Association should be formed. Get together a number of persons who feel as this correspondent does and start a campaign. Discuss the matter in private conversation. When strong enough hold public meetings; have meetings reported in the papers, and have editorials published, pointing out to the people the unwisdom of tree destruction from the point of view of both beauty and utility. With diligence and good will any ordinary community can be brought to demand that their beautiful trees shall be protected.

Volcanic National Monuments

It is announced that President Roosevelt has proclaimed Lassen Peak and Cinder Cone, in northern California, as National monuments. These peaks have been selected as marking the southern limit of the group of ancient volcanoes in the Cascade Range, which in the days of their activity poured out the great sheet of lava which stretches from the Columbia River across the whole

State of Oregon to the central part of California, covering like a blanket the copper veins and gold deposits of the ancient river beds, from which the modern streams derive their gold.

A Local Menace

The scenic beauty of Dolgeville, N. Y., is threatened. A neighboring wooded hillside, two miles long, and one of the chief attractions of the town, is liable to be sold to lumbermen and destroyed. Its owner has long held it at a loss that he might protect its woods. The burden is growing too heavy for him, and he is liable to sell. The *Otsego Farmer* urges a popular subscription to purchase the property that, later, it may be turned over to the village for care and maintenance. It is to be hoped that local patriotism and civic pride will rise to the occasion.

Power of Congress Over Public Lands

The critics of the Forest and Reclamation Services have construed the decision in the *Kansas versus Colorado* case to mean that Congress has no legislative power over public lands within a State for the purpose of regulating water rights, their theory being that the United States holds its land simply as a private proprietor unless the State has expressly ceded sovereignty and jurisdiction. If this were true National Forests, like private forests, would have to be governed by the laws of the States. It is true the Court denied the contention of the United States Solicitor General in the *Kansas-Colorado* case that Congress has power to legislate upon all matters which are National in scope, on which ground the Solicitor General sought to assert the right of Congress to regulate irrigation by private parties. But the power to legislate for the public lands rests on another basis; namely, on Article 4, Section 3, of the Constitution: that "Congress shall have power to dispose of and to make all needful rules and regulations re-

specting the territory or other property belonging to the United States." The courts have repeatedly held that the word territory means land, and that the power thus granted is subject to no limitations. Therefore, so long as the forest lands and unsettled arid lands remain Government property they can be handled by the Government in any way Congress sees fit.

Forest Purchase in New Jersey

The New Jersey Forest Commission has just bought 5,400 acres of forest on the Kittatinny Mountain to add to the State reserves. This purchase is subject to a cutting lease having six years to run. During that time the contractor has the right to cut all trees over ten inches in diameter on the stump, but all smaller ones are to be preserved and fire is to be kept out.

The land is rough and very rocky, entirely unfit for agriculture or for any other use than that of growing trees. The forest is chiefly of oak and chestnut with a few pines on the ridges and some ash, tulip, poplar, birch, hemlock, etc., in the swales. It has all been cut over several times and there are many ragged old trees as well as thrifty saplings and poles. The present cut is mainly for railroad ties and will doubtless be closer than any former one, yet that is an advantage to the forest, since it will leave less slash. How to rid the forest of this slash, of that left by the former cuttings, and of the old trees that are in the way, is a problem that the State forester hopes to solve by the time the contract expires.

The State has the right to follow the contractor and clean up the forest; but, in the absence of any market for cordwood, this will be expensive work. For this reason, it was quite impossible to have the contractor clean up as he went along. It is even doubtful if the tops could be piled and burned without doing more harm than good. Has anyone ever tried clearing up a forest of this kind?

The purchase of this tract subject

to a cutting lease is rather a novel way of acquiring land for a forest reserve, but the cash price was low and the forest when it is actually turned over to the State will have a good stand of young timber. Meanwhile the State can make improvement thinnings, plantations and experiments of any kind, and can begin to allow its use as a park, wherever that use will not interfere with the logging.

This purchase is notable in two other ways: 1. It establishes the policy of the Forest Commission and makes it clear that the State Forests are to produce lumber as well as to be used for parks. 2. It affirms the belief of the Commission that land of this kind can be made to yield successive crops of timber. How often, and how large, a crop can be obtained will be shown by the studies of the tract to be made this summer.

National Forests a Safe-Guard Against Timber Famine Mr. Gifford Pinchot, Chief Forester of the United States, in *Leslie's Weekly* for July 11th, said:

"A great timber famine is not only in sight; it is approaching with bewildering speed. After the first National Forests (then called forest reserves) were created under the act of March 3, 1891, it began to appear that a few rich men were getting control of vast areas of public timber land, often by methods which I need not stop to describe. These men saw not only that there was going to be a great shortage of timber, but also that when the shortage came it would be enormously profitable for them to control what timber there was. Their reasoning was good, and they went vigorously to carry it into effect. But President Roosevelt was awake to the situation. He saw that it would be vastly better to have some of the timber in the Government's hands for the benefit of all the people rather than to have it all in the hands of a few great owners strictly for their own benefit. Action was needed. He acted, and

created many million acres of National Forests. In view of this action of the President, taken to prevent monopoly and consequent excessive price of lumber, it is curious to find some good men honestly convinced that the creation of National Forests is a bad thing because, they say, it is raising the price of lumber to the consumer. It is the general scarcity of timber, not the National Forests, that is raising the price of lumber to the consumer, and this is proved by the fact that prices have risen far more rapidly in the East, where there are no National Forests, than in the West, where there are many."

Mr. Pinchot On June 25th, Mr. Pinchot spoke in Boise, Idaho. He said in part:

"As a nation we are very wasteful of our timber supply. We use from five to six times as much timber for our population as do the other nations of the world, and we are using our timber from three to four times as fast as the timber is growing.

"Our national forest reserve policy means in the first place that we are endeavoring to prevent a great timber famine. In doing so we are making of our forests a great timber factory. * * * This is as much a civilization of wood as it is of steel. There is no substitute for wood. When the world began to build iron ships in the place of wooden ones it used more steel, but it also used more wood than it had done before steel had been introduced in ship building. This is true also of concrete building. The National Forest is going to be the one safeguard. * * * Only one-tenth of 1 per cent of the forest reserves was burned over last year and about \$76,000 was the total fire loss. The fire loss has been reduced to a negligible quantity. We have proved that we can control the fire loss.

"The Forest Service has performed its mission if it can handle the other question as well as it has done the one of forest fires. The next great use of

the forest reserve is to store water for irrigation. It is a well-known fact that forests do conserve the water supply. We had a definite case in California where measurements had been taken. In this case the forest reserve increased the water supply 20 per cent and it made of one man a firm friend who had formerly been an enemy of the Forest Service.

"Now I shall speak of the grazing question. This has probably attracted more attention than any other. We had grazing in Forest Reserves last year 1,500,000 head of horses and cattle and 7,000,000 sheep. * * * The Government last year received \$500,000 in revenue from Forest Reserves in grazing privileges. This was more than from all the timber sales. * * *

"I realize that in many places it is impracticable for the stockmen to avail themselves of grazing privileges without fences. Every necessary thing we desire to have done to insure the fullest use of the grazing lands. We hope to make the grazing industry a more permanent one. In this respect we hope to gain a longer permit for the stockmen than a single year so that when a man takes his stock off the range in the fall he may know how many head he can provide for the following spring. He will be advised long enough ahead so that he may provide for his business needs. This, I think, will be a real relief and do away with the uncertainty that now attends stock-raising. I am often asked, 'Who has the right to any particular piece of range?' We have adopted this policy. The man whom we most wish to help is the small holder. We prefer to help the small man make a living rather than help the big man make a profit. The small man is classed Class A, and we give him absolutely the first right. * * *

"We play no favorites, but if it comes to a choice between the homemaker and the large stockman, the former gets first consideration.

"The object of the Service is to set forth the resources of the country for

the people of the country. I want to make this statement very emphatic. The effort is to turn loose the resources of the country for the use of the people. It has been charged that the forest-reserve policy was a money-making scheme for the Government. It is true that the old countries of Europe are making money out of their forests. Our idea is to take only enough from the stockman to improve the range. We want to charge the timberman the market price. We want to make a reasonable charge for the use of water rights for manufacturing.

"What I want is to put back into the improvement of the forest every cent except the 10 per cent that goes to each State. I want to make this point very strong. We propose to put back every cent if Congress will let us. So it is not a money-making scheme. I myself may have given rise to this belief from statements I have made showing the revenue that could be derived.

"I come to another subject in which there has been a misconception, and this is the development of the resources of a reserve. It has been said that our forest policy makes a wilderness where there should be a garden. I am satisfied this is not true. I wish to show you how the Federal policy aids development. The timber sales in Idaho last year amounted to \$174,000. We should spend this year in Idaho, \$73,000 in improvements more than in any other States. This will be spent in many ways, in building roads, telephone lines, bridges, rangers' cabins, permanent improvements. The benefit of this expenditure will be direct to the people of this State."

**California's
Interests in
Forest Pro-
tection**

The people of California think of no backward step in their forest policy and its workings.

The State Convention which recently met at Petaluma to consider forestry and irrigation was attended by delegates from every county in California. The discussions showed that

the people are alert to every phase of the questions involved, and resolutions were passed in which the State's forest policy was approved, measures were recommended for enforcing better logging regulations to secure second crops of timber, and a plan was indorsed for aiding private land owners who wish to plant trees.

It was further recommended that the State laws be so changed that the expense of providing against and extinguishing forest fires may be borne half by the State and half by the county in which the fire occurs.

Forests and irrigation are perhaps more closely related in California than in any other part of the United States. Without water for irrigation the State's agricultural resources would be small. Water is supplied largely from melting snow in the mountains during spring and summer; and the wooded areas protect the snow, allowing it to melt slowly and reach the streams gradually. Any threatened diminution in the water supply is necessarily viewed with alarm by owners of orchards, vineyards, gardens, hay ranches, and pastures, and by all who depend so largely upon these industries.

California has an excellent State forest service, but the people are awake to the necessity of further improvement. They likewise appreciate the fire protection afforded by the forest officers of the Government in the National Forests, and the grazing regulations which prevent pasturing the woodland ranges to death. Remarkable improvements have resulted in forest conditions in the past ten years under protection of the Government and the State. No one there is now heard to voice a desire to go back to the old way.

Official Call A copy of the Official Fifteenth National Irrigation Congress Call of the Fifteenth National Irrigation Congress has been received by FORESTRY AND IRRIGATION. It is issued from the Headquarters of the

Congress at Sacramento, Cal., and announces that this important convention will be held in that city September 2-7 inclusive next. The document recites the purposes of the Congress, invites the appointment of delegates by organized bodies of all kinds, and announces special railway rates over all railway lines to California. An Interstate Irrigation and Forestry Exposition, the California State Fair and special harvest excursions over California are among the entertainment features promised those who attend.

The purposes of the Congress are declared to be "Save the forests, store the floods, reclaim the deserts and make homes on the land," and all who are interested in these objects or in any of them are invited to participate in the deliberations and thereby contribute to a wise direction of National policies and development of practical methods of conserving and developing the great natural resources of the country.

The personnel of the Congress, as stated in the Call, includes the President and Vice-President of the United States, Members of the Cabinet, Senators and Representatives, Governors of States and Territories, Members of State and Territorial Legislatures and State Irrigation, Forestry and other Commissions. Delegates may be appointed by Governors of States and Territories, Mayors of cities, county governing boards, official and unofficial public bodies, and organizations of every kind including agricultural, horticultural and commercial, as well as Boards of Trade, Chambers of Commerce and Development Associations.

The Interstate Exposition of Irrigated-land Products and Forest Products will be held simultaneously with the Irrigation Congress. The largest and finest list of trophies and prizes ever offered will stimulate competition. The California State Fair will follow the Congress with joint opening and closing ceremonies attended

by a great Irrigation celebration, the day closing with a magnificent allegorical Irrigation parade and electrical illuminations.

Especial emphasis is laid upon the opportunity afforded by this Congress for the study of Irrigation, Irrigation practices and results, irrigated crops of every kind and Irrigation opportunities. Sacramento is situated near the center of the Great Valley of California which extends lengthwise through the State a distance of nearly five hundred miles and comprises approximately nearly ten million acres of fertile land. Colossal plans for the construction of storage dams, and distributing canals for the irrigation of this great plain are now being made by engineers of the Reclamation Service, and money has been apportioned from the Reclamation Fund for the construction of an initial unit of the great system contemplated.

Special excursions will enable delegates to see California. These will cover the Sacramento and San Joaquin Valleys, the mountains, the copper belt, the vintage districts, the redwoods, seacoast and mountain resorts, orange and lemon districts and irrigated districts. Special railway rates to California will prevail over all trans-continental lines.

Great Results From Colorado Irrigation The Colorado State Commercial Association furnishes some interesting facts about Colorado

irrigation, by which that State, famous for its dryness, has become, nevertheless, a leading agricultural State. There are 8,476 miles already of main ditches, canals, and tunnels in the State. There are 4,074 miles of laterals. Could the water used in these systems be confined in one huge reservoir on the lines of the County of Denver, it would cover the 44 square miles of that county to a depth of nearly 100 feet.

There still remain over one million acres of land, according to the State Engineer's office, that can be placed

under irrigation. Many companies are being incorporated to extend the irrigation systems of the State. Nearly one thousand reservoirs, great and small, are already planned. Some parts of the State can be irrigated by pumping water from the ground; this is being experimented with by the State Engineer. Much economy in irrigating orchards has been effected by thorough tillage of the ground; one-third of the former amount of water can be made to do the work. Routt County is a great section in the northwest part of Colorado, which has not yet been much developed. It has large mineral wealth; and 50,000 acres of agricultural land are to be opened this summer under the Carey Act.

Must Preserve Mine Timber

Practical mining men are well aware of the decreasing supply and increasing price of timber suitable for mining purposes. The time has come, says *Mines and Minerals*, when every stick of timber used either inside or outside the mines should be so handled during its entire life that it may be expected to give its greatest service.

Married

On June 26th, Mr. Edwin Augustus Start, Secretary of the Massachusetts Forestry Association, and Miss Caroline Mason Knowles were married at Billerica, Massachusetts. They will be at home after August first at The Uplands. The congratulations and best wishes of FORESTRY AND IRRIGATION are hereby extended to them.

The Oak Barrel Refuses To Go

Notwithstanding the fact that the Standard Oil and nearly all other oil companies have adopted tank cars or pipe lines as a means of transporting the bulk of their product more than six million new barrels are consumed annually for transporting oil. In addition to oil numerous other commodities require barrels; so that all

together, at least fifteen million barrels are made each year for liquids. Outside of oil, the alcoholic liquors require the largest number of barrels. Whisky, wine and beer are almost universally transported in white oak barrels or in kegs. White oak is, and always has been, the only wood used in any considerable quantity in the manufacture of tight barrels. On account of the strength and the relatively impervious character of the wood it is especially adapted to this use.

Since the average whisky and oil barrel contains about twenty-five board feet of oak it is easy to see that an enormous amount of oak is annually used for this purpose. In 1906 this amounted to nearly 375 million feet. The central States of Kentucky, Tennessee, West Virginia, and Arkansas now supply by far the greater quantity of this material, but it has not been many years since Indiana was considered the principal source of supply and furnished the bulk of the barrels for both oil and liquors. Indiana has long since ceased to be a large factor in the oak production of the country, and the source of stave material has steadily moved southward in the same way that the source of coniferous lumber has moved steadily southward and westward.

It would seem that it is but a matter of time when a substitute must be found for the oak barrel, except for the liquors which require this material. Oak, though the most abundant of the hardwoods, is in such universal demand for furniture, finishing, construction material, and many other purposes that already the inroads which have been made upon the most available supply have caused a sharp increase in its value which is bound to continue as the supply decreases and becomes more and more inaccessible. For many purposes, substitutes have already been found, but thus far nothing has proved so satisfactory for the construction of tight barrels as white oak. It, therefore, seems probable that we shall continue to use oak for this purpose so long as its value does

not make it more economical to turn to the more expensive metal package, or until some process is devised for rendering other and more abundant kinds of timber impervious and thereby making them available.

Substitutes for Oak

Dealers in hard wood cooperage throughout the country are concerned over the growing scarcity of woods suitable for this purpose. This concern is especially felt by the wine producers of California, who require in their business the very best grades. The California Wine Association, which represents the greater portion of the winery interests of the State, has hit upon a unique and effective way of inviting attention to this need by offering a handsome prize to be awarded to the best substitute for oak.

This prize or trophy consists of a handsome miniature oak cask with heavy silver hoops and other ornamentation. It will be given for the best sample of wood suitable for use as a

substitute for oak in wine cooperage, displayed at the Interstate Exposition of Irrigation and Forestry Products, which will be held at Sacramento, California, September 2-7, next, simultaneously with the National Irrigation Congress.

This Exposition is designed to assemble a splendid collection of woods of this country. It will be a sample exhibit, and every manufacturer is invited to send samples of his woods, which may be of any size and may be sent by mail, express or freight. The purpose is to get a complete sample exhibit of the woods of America; and other prizes are offered, among them a handsome silver loving cup, valued at several hundred dollars, which will be given by the Diamond Match Company for the best collective state exhibit of commercial woods.

The Pacific Hardware and Steel Company, of San Francisco, will give a handsome, specially designed trophy for best varietal state exhibit of Forest Products.

*THE PASSING OF THE FOREST

By Alexander Blair Thaw.

As long as the forest shall live,
The streams shall flow onward, still
singing
Sweet songs of the woodland, and
bringing

The bright, living waters that give
New life to all mortals who thirst.—
But the races of men shall be cursed;

Yea, the hour of destruction shall come,
To the children of men in that day
When the forest shall all pass away;
When the low woodland voices are dumb;
And death's devastation and dearth
Shall be spread o'er the face of the
earth.

Avenging the death of the wood,
The turbulent streams shall outpour
Their vials of wrath, and no more

Shall their banks hold back the high
flood,
Which shall rush o'er the harvests of
men;
As swiftly receding again.

Lo! after the flood shall be dearth,
And the rain no longer shall fall
On the parching fields; and a pall,
As of ashes, shall cover the earth;
And dust-clouds shall darken the sky;
And the deep water wells shall be dry.

And the rivers shall sink in the ground,
And every man cover his mouth
From the thickening dust, in that
drouth;

Fierce famine shall come; and no sound
Shall be borne on the desolate air
But a murmur of death and despair.

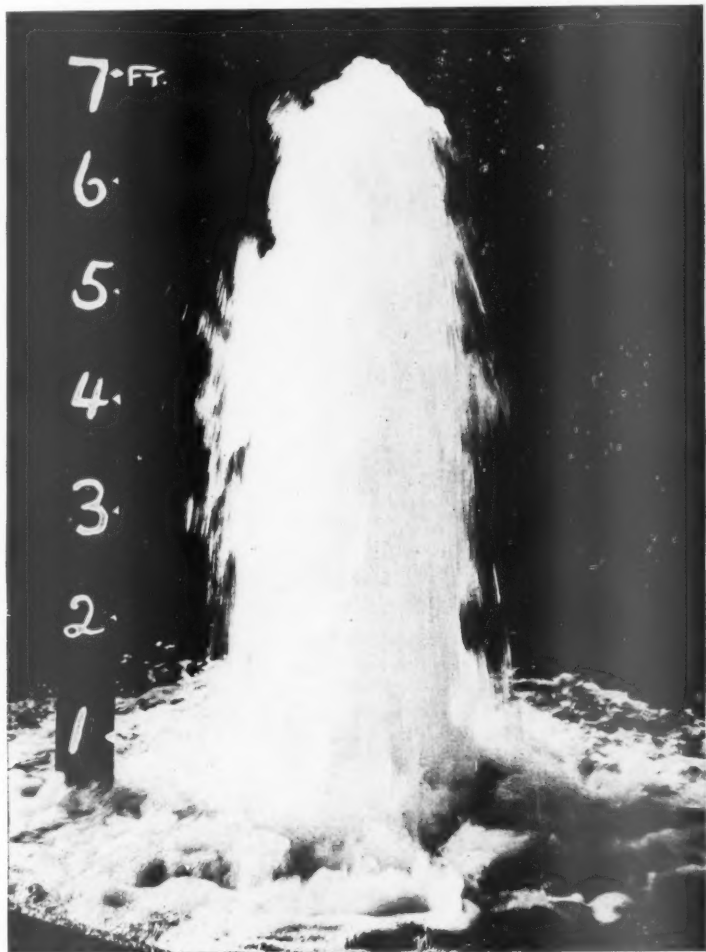
OUR NATIONAL PARKS*

BY

Mrs. T. J. Mott, Helena, Arkansas

THE establishment and maintenance of our National parks and forests has an esthetic side and a practical

The National parks, including the Yellowstone, the Yosemite, the Sequoia and others, were set aside for



View of the largest artesian well in the Pecos Valley, near Artesia, New Mexico; it yields over 3,000 gallons a minute

side, and it is from the latter viewpoint that I wish to present them to you.

their esthetic value, each possessing some peculiar characteristic in the form of spouting geysers, towering

*Read before the Forestry meeting of the Pacaha Club, May 23, 1907.



Forest of noble fir, hemlock, and red fir in Oregon

peaks, leaping waterfalls or gigantic trees, making them fitting places in which the human family may find rest and recreation.

For centuries, God, with infinite care, tended these trees; bathed them with dews and rains; tempered them

grandeur that stood without a rival in the whole world. It is well that a part of this magnificent forest land is set aside not for use, but for its esthetic value, and that it is guarded day and night by Uncle Sam's soldiers; that its glorious beauty, teeming with

Large growth of alligator juniper in the Black Mesa National Forest



by storms that they might have suppleness and strength; wrapped them about with blankets of snow in winter, and gossamer veils of sunshine in summer; and under His loving guidance they grew to a vastness and

throbbing animal life and sweet-voiced song-birds, with gorgeous foliage and fragrant flowers, will be preserved for all time.

The Forest Reserves, or National Forests as they are to be called here-

after, were set aside to provide wood for the American people. Owing to the magnitude of our forests —

stretching as they did from Maine to Florida, from the Great Lakes to the Gulf, and sweeping across to the west-



Scene in the Teton National Forest, Wyoming

ward over hills, plateaus and mountains down to the Pacific coast—it was thought in the early development of the country that they were inexhaustible.

But as State after State was "lumbered out" and left with vast stretches of land bare and desolate, and the lumber industries continued their steady march westward, the American people awoke to a realization of two facts; viz: that the timber supply was not

And so the people—the same people Lincoln meant when he said: "You can't fool all the people all the time"—began to say that something must be done. Dendrologists, botanists and horticulturists were talking and writing about the disappearance of the trees and the climatic and physiological dangers accompanying their removal, and in time the work of the scientific men and the agitation of the subject by the common people began

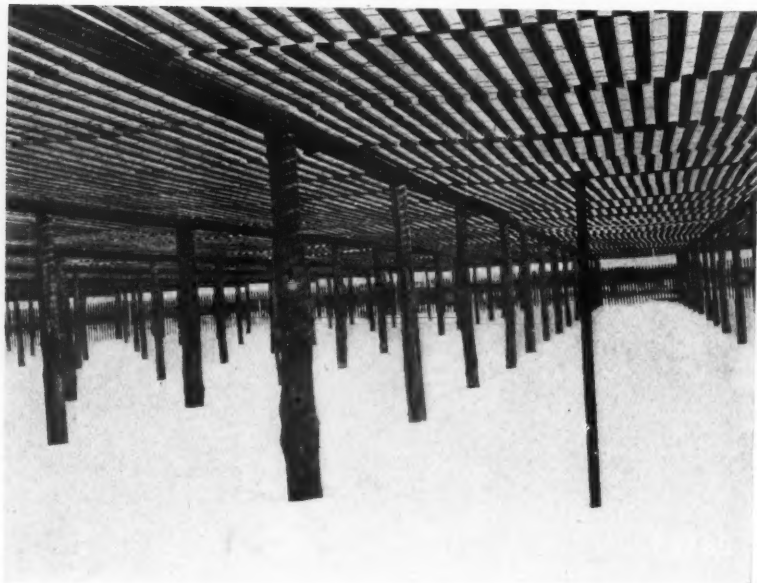


Complete destruction, by repeated fires, of a forest in Battlement Mesa National Forest, Colorado

inexhaustible, but instead, with the present wasteful methods, a timber famine was inevitable, and not many years distant; also, that not all lands are agricultural lands. Steep mountain lands, swamp lands and sand barrens must grow trees or lie idle. Every State to the north and east of us has thousands and millions of acres now lying idle. Denuded of their forests, they were burned and plowed over, and it took the rains but a few years to wash the soil off, leaving hillsides absolutely barren.

to bear fruit. Congress passed an act in March, 1891, authorizing the President to set aside certain tracts for the protection of the water flow and forest growth. The direct result was the setting aside of several large tracts of timbered lands situated at the headwaters of our streams, and thus the National Parks were established.

That was good so far as it went, but what the people wanted was not only a perpetuation of the forests, but a perpetuation of the wood supply—wood to build houses, boats and cars;



Pine seedling nursery, with slatted roof affording partial shade, as under forest trees. Winter view

wood for telegraph poles, railroad ties and bridges; wood to operate mines; to fence farms and to warm our houses; wood for agricultural implements,

vehicles and furniture; wood for barrels, boxes, tubs, baskets and buckets; wood for matches and lead pencils, and for the manufacture of paper; and



The pulp-wood industry: Cutting spruce in the Adirondacks

they wanted it not only for the present generation, but for all time to come.

It takes trees from forty to sixty, or a hundred, and some of them a thousand years, to grow to maturity, so it was not reasonable to suppose that men would take largely to timber culture. To make sure of the perpetuation of the wood supply, the United States Government must become the owner and caretaker of the forests that still remained to us.

Cleveland, McKinley, and Roosevelt all advocated this policy; Secretaries

Congress has humored her in this tendency, allowing her in 1899 \$175,000 and increasing that sum each year until this year she will have for spending money the mere trifle of \$3,000,000.

"And what," you ask, "is the dear child doing with all this money?"

To begin with, she looked about her, selected with minute care her estates, had them well surveyed, the limits established, and complete maps, with respect to their values, made of them all.

After which she engaged a police



Water running in the furrows; the sluice hose in foreground

of Agriculture Morton and Wilson strongly favored it; Congress saw the wisdom of it; hence in the year 1891 a new child was born in the executive department of Uncle Sam's government.

This child having just passed its sixteenth birthday, has had a phenomenal growth, having acquired a domain of 147,948,685 acres, consisting of 153 National Parks and Forest Reserves. She has also acquired the American characteristic of being a spendthrift.

patrol to protect the forests from disastrous fires and thieves. You would hardly believe if I told you of the work of the timber thieves. Large mills have actually been set up and operated for considerable time, cutting and selling lumber without once saying "If you please."

She has regulated the grazing industry of the West, which was threatening the life of the forests. She has built trails and roads, bridges and telephone lines.

She has established nurseries for

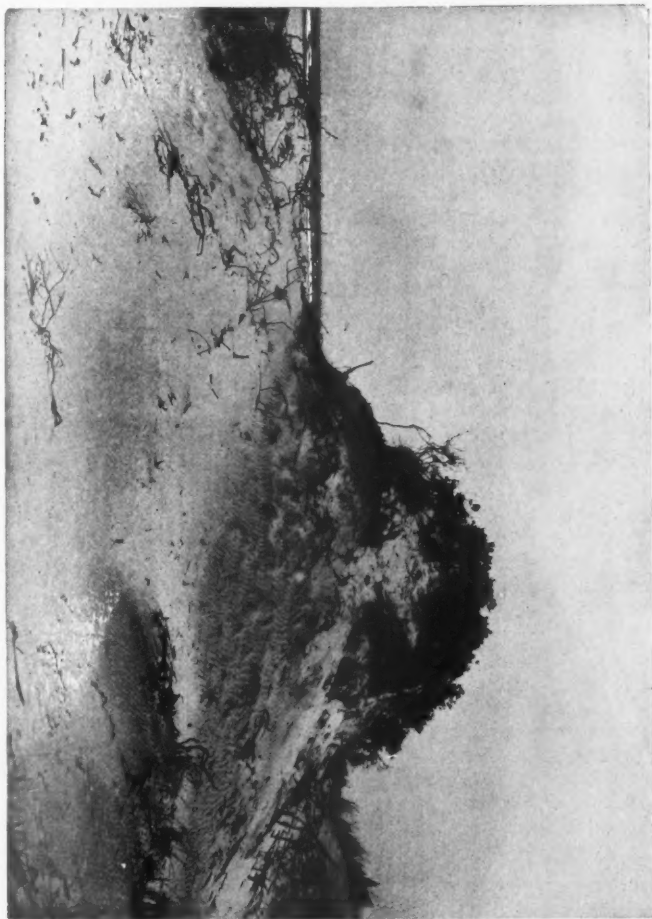


The Three Sisters, from Fish Lake, Cascade National Forest, Oregon. The timber is Alpine fir and bull pine

reforestation in the San Gabriel and Santa Barbara reserves in California; Pike's Peak reserve in Colorado, the Gila River reserve in New Mexico; Black Hills reserve in South Dakota, and Dismal River reserve in Nebraska. She will soon undertake forest re-

She has created experimental stations where wood values are tested by trained engineers. Here she has made a number of discoveries; various processes for the preservation of wood, different woods suitable for paper-pulp, wood distillation from sawmill

The top of a dune on the Jersey coast held by a patch of byberry



placement on areas in the Wichita, Prescott, San Jacinto and Sierra reserves; and these forests will serve as great reservoirs for the water supply, and thus must be of untold value to the great irrigation works now being constructed in the West.

waste, and, what we as women are most interested in, the transformation of cellulose or wood pulp, by a chemical operation, into the various lustrous silky stuffs now sold as mercerized goods. Nor is this all that this interesting young lady is doing. She gives

advice to one and all on the subject of forestry; she distributes among interested friends a very nice primer on forestry. I know whereof I speak, having received six within the last three years.

Sawyer & Austin, a lumber company of Pine Bluff, wrote her for advice as to methods for cutting and managing a tract of 100,000 acres of timber; and she sent a staff of foresters who went over the tract, laid it off in a certain number of sections, figured the annual cut of the mill, the rate at which the lumber would mature, calculated the number of years required to cut each section, and how many sections of timber the company must own to have a perpetual yield of timber—which, be it understood, only required the purchase of 170,000 more acres.

She has given new methods to the men engaged in turpentine orchardry, advised railroads and sugar men, and even the matchmakers have been benefitted by her timely advice.

All this, and a great deal more, has she accomplished, and so it was necessary, as you see, for her to have considerable spending money. Don't you find her a captivating, refreshing and altogether wholesome and lovable miss?

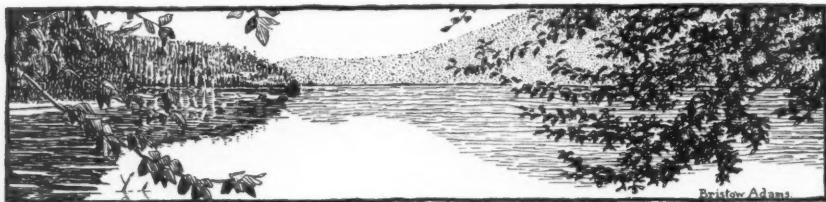
It is true she is a little willful, or it seemed was asking rather much when she demanded a reserve in Porto Rico and another in Alaska, and was thinking of asking for them in the Hawaiian and the Philippine Islands; and \$3,000,000 pocket money is a considerable sum.

But her two guardians, the President and the Secretary of Agriculture, have yielded to her wishes so much, I feel she should be forgiven; particularly when we are told by her chief nurse, Mr. Pinchot, that by the time she attains her majority, five years hence, she will not only be self-supporting, but will be paying money into Uncle Sam's treasury, and that not for one year or for five, but for all time to come.

And so, my friends, I propose a toast to her, this youngest child of Uncle Sam, Miss American Forests. May she live long and prosper; may she reclothe the abandoned farm lands and the bare mountain slopes, and cover the shifting sand hills of our Western plains. May the rich foliage of her trees and the soft humus at their roots so conserve the rains and snows that they may supply the streams and irrigation canals with water through the long summers.

May she grow in grace and favor with the American people, enjoying their appreciation and hearty support from the least to the greatest. May her fastnesses afford protection and safe retreat for the wild animals, and her groves and aisles be havens of refuge where her birds may mate, build their nests and rear their young, and undisturbed soar and sing their songs of praise.

And may her fruitfulness provide not only places of rest and recreation for Uncle Sam's children, but wood for every need and want of man or child, through all the years and cycles of years to come.



Brislow Adams

PRODUCTION OF LUMBER, LATH AND SHINGLES

The Director of the Census announces the following preliminary report on the production of lumber, lath, and shingles in the United States for the calendar year ending December 31, 1906. Statistics concerning the production of lumber and timber products have heretofore been collected in connection with the decennial and quinquennial censuses of manufactures. To satisfy the urgent demand for more frequent information relat-

ing to these important products, the Forest Service, of the Department of Agriculture, collected statistics pertaining to the production of 1905, and for purposes of comparison these totals are presented below. In order to avoid duplication of work, however, and insure uniformity of results, the preparation of the annual statistics has been committed to the Bureau of the Census which has worked in co-operation with the Forest Service.

LUMBER, LATH, AND SHINGLES—UNITED STATES:

(The figures cover the cut of 21,077 mills in 1906 and 11,666 mills in 1905.)

KIND OF WOOD.	LUMBER—THOUSAND FEET B. M.		LATH—THOUSANDS		SHINGLES— THOUSANDS	
	1906 ¹	1905	1906 ¹	1905	1906 ¹	1905
Total.....	37,490,067	30,502,961	3,802,220	3,111,157	11,885,455	15,340,909
Yellow pine.....	13,049,769	9,760,508	770,601	407,742	580,286	1,370,645
Douglas fir.....	4,969,843	4,319,479	551,020	584,884	.....	.....
White pine.....	4,592,719	4,983,698	931,342	872,599	226,560	382,742
Hemlock.....	3,508,558	2,804,083	616,779	430,014	131,358	135,020
White oak.....	1,835,176	1,210,216	43,664	.....	14,153	.....
Spruce.....	1,649,813	1,165,940	422,181	260,039	64,213	.....
Red oak.....	980,901	623,553	14,833	.....	9,881	.....
Maple.....	866,862	608,746	8,678	.....	1,389	.....
Cypress.....	843,603	753,369	180,271	155,825	1,235,721	1,514,478
Yellow poplar.....	683,382	582,748	35,839	.....	6,968	.....
Redwood.....	659,703	411,689	5,577	.....	819,770	483,887
Red gum.....	453,678	316,588	564	.....	355	.....
Chestnut.....	396,713	224,413	21,934	.....	32,544	.....
Basswood.....	372,748	258,390	40,883	.....	522	.....
Cedar.....	359,910	363,900	47,955	.....	8,734,952	10,908,542
Birch.....	345,097	240,704	3,505	.....	438	.....
Cottonwood.....	263,996	236,000	1,347	.....	100	.....
Beech.....	260,683	219,000	1,034	.....	509	.....
Elm.....	212,365	227,038	11,888	.....	392	.....
Ash.....	208,905	159,634	20,133	.....	126	.....
Larch.....	166,220	76,173	6,767	.....	25	.....
Hickory.....	148,732	95,803	26	.....	.....	.....
Sugar pine.....	139,139	123,085	2,220	.....	3,034	.....
Tamarack.....	123,835	64,463	19,456	.....	2,114	.....
White fir.....	104,329	52,725	3,710	.....	.....	.....
Tupelo.....	51,908	35,794	2,086	.....	.....	.....
Walnut.....	48,174	29,851	810	.....	209	.....
All other.....	193,306	555,371	37,117	400,054	19,836	545,595

¹ New York cut for 1905 included herein; totals for 1906 being prepared by the State Forest, Fish, and Game Commission, not yet available.

THE DENVER CONVENTION: A LETTER

BY

Lewis E. Aubury, State Mineralogist of California

THE VIEWS of Lewis E. Aubury, State Mineralogist of California, were sought by a prominent official just before the Denver public lands convention. Mr. Aubury's reply is as follows:

DEAR SIR:—

I have read the outline of the subject-matter to be considered by the Convention on Public Lands, to be held in Denver, from the 18th to the 20th instant. As you desire an expression of my views on this subject at an early date, I shall endeavor to express not only my own ideas, but those of the miners of this State, as stated by them to me.

Some of the questions to be discussed at the Convention are of a legal nature, and with these I would not presume to deal fully.

Regarding the development and settlement of the large areas of public lands west of the Missouri River, I believe there is no question regarding public opinion in the above-named territory as to the desirability of having unoccupied Government land settled with *home builders*. Speaking for California, however, the sentiment of the people is against the monopolistic acquirement of the most desirable lands by individuals or corporations, and I believe that it is the opinion of the people of this State that these lands would be better safeguarded with perpetual ownership and control of these lands by the Government than by the State. Past experience has demonstrated that a majority of our State lands have been acquired by individuals and corporations through the most gigantic frauds, and were the lands now in the possession of the

Government to be turned over to the State, there is no assurance that conditions regarding their acquirement would change.

The same conditions, I will admit, have prevailed under Government ownership, and the choicest of our lands, mineral, timber and agricultural, have been openly stolen, and without any restraining hand on the part of the Government in this State. Between the Government and State ownership of these lands, however, and with the attendant fraud practiced in obtaining possession of them, it is my opinion that the people of this State will be better satisfied to have them perpetually under Government control.

The delegation of authority to the Executive branch of the Government (if such exists) with regard to the making of "Rules and Regulations of the Areas Withdrawn," would appear to have been a wise provision, for from my personal observation of the conduct of the Forest Reserves in this State, considering that the policy is yet young, the administration of them has met with the approval of the people.

Up to the year 1905, some little antagonism was manifested by stockmen and others in the counties in which the Reserves were located. This was mainly brought about by the misrepresentations made to them by timber speculators or their agents. Some dissatisfaction was also expressed by a few miners. However, as a better understanding of the policy has become apparent, a great change has taken place—a much broader view of the subject being taken, and as the restrictions have been gradually les-

sened, stockmen and miners have joined hands in support of the President's policy, and against the encroachments of the timber grabber and land monopolists.

We, who for over a generation have been familiar with the methods of acquiring large tracts of lands in this State, *know that were the present Forest Reserves again thrown open for entry by the Government, or were these lands turned over to the State, as suggested, within five years every acre of it would find its way into the hands of the timber trust.*

It is all very well to talk about providing these lands for the people. The timber barons have developed a sudden solicitude for the dear people, and in my opinion are attempting to use the name of the people in their nefarious schemes, and as a blind to gain their ends. They say that they wish a disposition of these lands for their early acquirement and development by citizens. I say they wish these lands disposed of so that it will be possible to acquire them through their dummies, and that is the whole thing in a nutshell.

Whether this convention was suggested to accomplish the ends desired by the timber speculators or not, I am not in a position to say.

In the call for the convention, an invitation is extended to various interests affected by the Forest Reserves, but the invitation to the mining interests is conspicuous by its absence. Why is one of the most important interests of the West side-tracked? To what do the States west of the Missouri River owe their present advancement? Were it not for the mining interests which have caused the development of the West, the buffalo and coyote would probably still be roaming over the present site of the city of Denver.

No; our enemies, the timber grabbers, will be content to have the mining interests unrepresented. They do not wish to hear our side of this ques-

tion. They do not care to be told that under the present beneficent policy of Theodore Roosevelt, not only the miners' rights, but all others as well, are amply protected against the bribery, thievery, perjury and general rascality of the timber monopolists. We need no enlightenment. We have suffered and learned by hard experience. We do not need to be told that if these forested lands were again thrown open or that if by Legislative enactment it were made possible to use the large quantities of scrip now in possession of the timber speculators, the miners would be debarred from these lands.

We are willing to abide by the present laws, which it is stated in the Call for the Convention, "Might prove disastrous to this section of the country," in preference to the enactment of new laws which will make it possible for the timber grabber to acquire the forested areas, for, in our opinion, no greater disaster could befall the country than the opening of these lands so that they could be fed into the capacious maw of the timber trust. If need be, we are willing to embrace "municipal sovereignty," preferring that to individual or corporation sovereignty.

In outlining the subject-matter to be covered by the Convention, the Program Committee has misstated facts, and has misrepresented conditions, whether with a view of influencing the Convention or from ignorance, I know not.

In answering the four questions which have been asked, and which are to be considered by the Convention, as stated before, some are of a legal nature, and I do not intend to discuss them fully, but my opinion is as follows.

Question No. 1. The United States Government may not have a *constitutional* right to hold the public lands under "municipal sovereignty," but it has a *moral* right.

(Continued on page 431)

HARDY CATALPA FOR PROFIT

BY

Prof. Frank G. Miller, University of Nebraska

MR. C. D. ROBINSON, a prominent merchant at Pawnee City, Nebraska, has recently completed a very interesting experiment in the growing of hardy catalpa. In 1889, he purchased a small tract three miles northeast of Pawnee City, and immediately put plans under way to plant twenty acres of catalpa.

The land is of the rolling prairie type. The soil is a sandy loam with a small admixture of gravel, and underlain with a clay subsoil. Seven acres were planted in the spring of 1889, on ground which had been carelessly farmed for some years, and was very much run down. The remaining thirteen acres were planted in the spring of 1890. This portion of the tract had been in virgin prairie sod until the spring of 1889, when it was broken out and allowed to stand idle until the following year. The ground in both cases was put in a thorough state of cultivation immediately before the trees were planted. The trees, which were one year old when set out, were spaced four by four feet, thus requiring twenty-seven hundred and twenty-two trees per acre. The plantations were cultivated the same as corn the first two years. After that no further care was given them, except that a few acres were pruned several years later. The plantation was always protected against fire and live stock.

The entire plantation was harvested in January and February, 1906. Since seven acres were planted in the spring of 1889 and thirteen acres in the spring of 1890, the average age of the grove was approximately sixteen and one-third years. The owner has kept a strict account of all expenses incurred in establishing, maintaining, and harvesting this plantation, as well as of all proceeds, and the figures following are taken from his records:

EXPENDITURES PER ACRE.

Plants, 2,722 at \$1.15 per thousand	\$3.13
Preparation of the ground, planting, cultivation, and pruning	18.46
Total	\$21.59
Interest on \$21.59 for 16 1-3 years at 5 per cent compounded	\$26.34
Cutting and marketing.....	61.90
Total expense for growing and harvesting the plantation, per acre	\$109.83

RECEIPTS FROM THE TWENTY ACRES.

The actual material sold and receipts from the same are as follows:

31,397 3rd class posts, at 5c...	\$1,569.85
17,349 2nd class posts, at 10c...	1,734.90
4,268 1st class posts, at 12 1/2c.	533.50
270 1st class posts, at 15c...	40.50
211 8 ft. posts, at 20c.....	42.20
9 10 ft. posts at 25c.....	2.25
4 10 ft. posts, at 30c.....	1.20
258 10 ft. posts, at 35c.....	90.30
41 12 ft. posts, at 40c.....	16.40
167 14 and 16 ft. poles, at 50c	83.50
Total for posts and poles...	\$4,114.60
214 cords of wood, at \$5.25...	1,123.50
Total income from 20 acres	\$5,238.10

The total of \$5,238.10, as the proceeds from twenty acres, is equal to \$261.90 per acre. If from this the cost of \$109.83 per acre for growing and marketing the crop is deducted, we have \$152.17 as the net proceeds per acre. Allowing 5 per cent compound interest for deferred payment, the \$152.17 as the net income at the end of sixteen and one-third years is equivalent to an annual net income of \$6.24 per acre. In other words if the land had been rented, it would have had to bring an annual cash rental of \$6.24 per acre for this period to equal the income derived from the plantation.



The C. D. Robinson hardy catalpa plantation, Pawnee City, Nebraska

Any one acquainted with the conditions that have prevailed in eastern Nebraska, and the reverses farming has suffered for the period included in the life of this plantation, knows that this would be a splendid showing for any sort of crop. It should be remembered that one-third of this grove was on poor land, and because

before it was harvested, it is estimated that had the thirteen acres on virgin prairie soil been harvested and marketed alone, the net annual returns for this portion would have been \$9.00 per acre, after allowing 5 per cent compound interest for deferred payment.

The old stumps have sent up a vigorous growth of sprouts the past sum-



Harvesting the crop from Mr. Robinson's hardy catalpa plantation

of the impoverished condition of the soil, the trees were only just reaching post size when they were cut. This portion of the plantation would have been much more profitable had it been allowed to stand a few years longer.

Based upon careful measurements, made by the United States Forest Service, in this plantation, a year or so

mer, and the owner expects to harvest a second crop in ten years. During the summer the sprouts were thinned out to the one or in a few cases to the two, most promising sprouts at each stump. These have made a growth of from four to nine feet the past summer.

The cordwood sold readily at home,

and is giving splendid satisfaction. There was a good sale for the fence posts among the farmers of the vicinity, though most of them sold in car-load lots to farmers and ranchmen in the western part of the State.

Mr. Robinson, writing in regard to his grove, says: "I am well pleased with the result. It has been a source of a great deal of pleasure and very little bother or worry. Yes, I did worry some last fall for fear I might not find a market for my stuff, but now I worry because I cannot supply the demand for my posts. I could sell 60,000 more this spring if I had them.

"If I had it to do over I could realize quite a little more from the same timber. I should have had fifteen

cents each for the posts which I sold for twelve and one-half cents. They were fine posts, and would have sold readily at fifteen cents. I also found a good sale for ten foot posts for stables and sheds, and could have sold several thousand fourteen and sixteen foot poles for sheds and cross country telephone poles."

In establishing, maintaining, and harvesting this grove Mr. Robinson has hired everything done and paid good wages. A farmer could have done most of the work himself at odd times and could have easily saved one-half the expense. Nevertheless, the enterprise has been a profitable one, and is a splendid object lesson in showing what can be done in forest planting when rightly handled.

(Continued from page 427)

Question No. 2. The agreement probably did include the right to acquire the public lands for the benefit of its citizens as *bona fide* settlers, but this agreement did not intend that the lands should be acquired by dummies who, after acquirement, should turn them over to speculators.

Question No. 3. A public necessity does exist and has existed for many years that has warranted the large withdrawals already made. The United States has constitutional capacity to engage in merchandizing coal and timber in competition with *trusts*; as much so as the capacity for managing the Postoffice, Army or Navy, or other branch of the Government.

In presenting the above as my views and those of the miners and all true Americans, resident of this State, I do so with a fair knowledge of conditions as they exist here, and while there may be some in the Convention

who honestly differ with my views, for their future guidance I will only ask that they inform themselves as regards the experience of European countries with the timber question; or, if they do not wish to look so far, that they visit Michigan or Minnesota, and there obtain an ocular demonstration of the ruin that has been wrought before the Forest Reserve law was enacted.

To those who might attend the Convention for personal or financial motives, and who are on an ax-grinding expedition, I can utter no stronger condemnation than to say that they are not *true Americans*; for in my opinion, a greater enemy to our country does not exist than the person who for sordid motives would destroy the greatest resources with which Nature has provided us.

Very truly,

L. E. AUBURY.





UNITED STATES RECLAMATION SERVICE



Government Irrigation Work During the Month.

Reclamation Service in New Quarters

The U. S. Reclamation Service has moved its office in Washington from the Munsey Building on Pennsylvania Avenue, to the newly enlarged, six-story building on Twelfth and G streets, formerly occupied by the Washington Savings Bank. The Service will use part of the second floor and all of the four stories above that. Hitherto a portion of the Reclamation Service force has been housed with the Geological Survey, of which the Reclamation Service was formerly a part. It was desired to bring all the office together, and for the sake of more room the present quarters were obtained.

Old Canal Purchased by Government

The Government has purchased the pumping plant and right of way for five miles of canal and laterals of the Colorado Valley Pumping and Irrigating Company, Yuma, Arizona, for use in connection with the main Yuma irrigation project. Until the project is completed and the canal system is replaced by the Government system the pumping plant will be used to supply the present settlers with water. The price paid is \$6,000.

Electric Power in Reclamation Work

Electric power is found highly helpful in Reclamation Service engineering. One application is in the operation of centrifugal pumps. Electric drills have assisted in boring conduits through solid rock and in some localities electric railways will be worked by means of water which will subsequently flow into irrigation

canals. In the wonderful Strawberry Valley project at Vernal, Utah, a storage reservoir will be built to hold five billion gallons of water, and a tunnel three and one-half miles long is being cut through a mountain. The work is being done by electrically driven tools, and when it is completed the water will first be used to generate electricity for lighting and power purposes and then for irrigation.

The Williston (N. D.) project and the Buford-Trenton project in the same State are operated entirely by electricity. The electric current is generated by steam turbine (not hydraulic power), and is used to drive the large motors connected with the centrifugal pumps. Another system has been installed at Garden City, Kan., and still another at Salt Lake, Arizona.

Growth in the Belle Fourche Valley

Water will be delivered from the new Belle Fourche canal for use this summer, though the formal opening has been postponed until fall. This valley in southwestern South Dakota has already some settlement. Large development will doubtless follow from the water service after the irrigation projects are completed. The village of Belle Fourche has been enlarged by the location of a town site by the Government, the lots there being sold by auction. The first passenger train over the new extension of the Northwestern Line into the Rosebud country reached Gregory a few days ago. Settlers are coming into the new country and taking up homesteads in large numbers.

Temporary Lease for Grazing Use Last year the Secretary of the Interior authorized leasing for temporary use lands withdrawn for reclamation until such lands should be needed for the purposes of the project for which withdrawal is made. Under this policy the Reclamation Service has leased 31,840 acres for grazing purposes, which were withdrawn for the Strawberry Valley Irrigation project, Utah.

The lands are leased until December 31, 1907, to James W. Clyde and others, all of Heber City, Utah, at the rate of \$10,408 per annum.

Great Results in Salt River Valley It is hard to realize the extent and value of the reclamation work now going on in the Salt River Valley of Arizona. Ten years ago Chief Engineer Arthur Powell Davis of the United States Reclamation Service visited the Tonto Basin dam site on horseback over an almost impossible Apache trail, while on June 18th he returned from the dam site over a magnificent mountain road of eighty miles in an automobile, in company with the engineer in charge, L. C. Hill, easily in the course of a single afternoon. Building that road is a part of the great work accomplished in this, the first great project of the Reclamation Service.

Water-power as well as irrigation is to be secured. It is estimated that, altogether, 20,000 horse-power will be developed, worth at least \$40 a horse-power, or \$480,000 a year for 12,000 horse-power surplus. The Indian Bureau will receive part of the power, and in return will contribute \$300,000 to the Roosevelt (Tonto) dam construction fund; and will use the power for pumping water for 10,000 acres on the Pima reservation around Sacaton agency. Much of the balance will be used for extension of the irrigated area of the Salt River Valley and for purposes in Phoenix. About 5,000 horse-power will be developed by the construction of a new crosscut supply canal from the Arizona Canal about

nine miles north of Phoenix to a point just across the Salt River from Tempe, where the water will fall 115 feet into the upper end of the Grand Canals. This enormous total of water-power will be worth almost as much as the water to be stored at Roosevelt.

What all this means to the Salt River Valley and to the city of Phoenix, the capital of Arizona, is almost beyond calculation, as it is not a work to benefit a term of years, but for the gain of all time. Given water, the land of Arizona will grow anything.

Takes Up Private Practice Mr. C. E. Grunsky, who for more than two years has been Consulting Engineer to the Director of the Reclamation Service, has resigned his position to take up private engineering work, with offices in New York and San Francisco.

Mr. Grunsky is a native of California. He received his technical education in Germany in the early 70's, and after coming back to America spent some years in private engineering practice and in work with the State Engineer's Department in California, becoming Assistant State Engineer in 1879. While in this work he was called upon to engage in numerous investigations and determinations of irrigation problems, both legal and scientific, and became an expert in water supply matters. From 1900 until his appointment to the Isthmian Canal Commission he was City Engineer of San Francisco, and as such he planned a water supply system for the city involving the bringing of water from the Sierra Nevadas, nearly 180 miles, to supplement the local supply.

During his connection with the Reclamation Service Mr. Grunsky spent a large part of his time visiting the irrigation projects under construction by the Government, especially those involving international complications. His many friends in the Service and in Washington wish him the highest success in his new work.



The Month in Government Forest Work.

Forest Reserve Maps

These can be obtained from the State Mining Bureau, Ferry Building, San Francisco, California, at the following prices: Mounted, 50 cents; postage, 8 cents. Unmounted, 30 cents; postage, 6 cents.

Help in Building a Road

Referring to a grant of \$3,000 by the Forest Service to aid in building a State road in Idaho, the Harpster-Elk City road and the Salmon River trail, the *Spokane Spokesman-Review* says: "The prompt response and the action taken are illustrative of what has repeatedly been said of the Forest Service, that its efforts to protect the forests go hand in hand with a purpose to give all possible assistance to the peopling of the country with actual settlers and to help the settlers in the development of the country."

The Idaho law takes for road purposes three-fourths of the ten per cent fund paid to the States from the proceeds of National Forests in lieu of taxes. In addition especial appropriations were made for this road and trail, both appropriations being contingent upon the raising of like sums by the people locally affected. But the roads are in a sparsely settled region, and it was feared the local amount could not be raised, so the Forest Service made this additional allotment.

Forest Service Publications

During the past year the Forest Service issued sixty-one new publications, with a total circulation of

more than two million copies. Some of these publications are highly technical, others popular, but all are thoroughly practical. They are not of the kind which go into print only to cumber the shelves of libraries and fill the junk shops with rubbish. The titles range from "Some Experiments on the Strength of Treated Timber," which covers a multitude of scientific facts of interest to engineers and the like, to "Forest Planting on the Semi-arid Plains," which is of interest to the people in general of a large region.

Official Nimrods

A new sort of officer has been employed by the Forest Service, namely, a wolf killer. For many years the cattle men have been fighting wolves, but it has been a disorganized warfare and not always effective. Mr. Vernon Bailey of the Biological Survey has thrown much light on the habits of the wolves and made recommendations as to efficient methods of exterminating them. It has been found that wolves do not live in the forest reserves. A man whose settled business it is to destroy wolves can effect much by seeking out their dens when the cubs are young. The old wolves run away when a man comes near and it is easy killing the cubs. Wolves have been a serious drain on the cattle industry.

Notes and Specimens Desired

The Coast Ranges of Oregon and southern California have not been carefully explored for the little known or unknown trees which they doubtless

contain. In Oregon the exact northern limit in the Coast Ranges of sugar pine, white fir (*Abies concolor*), goldenleaf chinquapin, California black oak, and a number of other trees, is unknown, while in California the exact southern limits of such coast species as Sitka spruce, western hemlock (*Tsuga heterophylla*), yellow cedar, and Lawson's cypress, as well as the western or northern limits of various California oaks and junipers, are all yet to be determined. The Forest Service hopes that anyone who is able to do so will assist in completing our knowledge of the range of these trees by contributing notes and specimens.

Addition to Black Mesa National Forest An addition containing 550,000 acres was made to Black Mesa National Forest, in Arizona, on July 12th, making the total area of the Forest over 2,500,000 acres. The addition lies in a narrow strip along the northern boundary of the Forest, extending west from the New Mexico line to Chaves Pass.

This enlargement was necessary to protect the irrigated lands in the vicinity of Springersville, Taylor, and Snowflake. The timber cover affords protection to part of the watershed of the Little Colorado River. The development of any lands suited to agriculture will not be hindered, for such land still remains open to homestead.

Forestall the Fuel Famine The Interstate Commerce Commission has urged, upon the recommendation of the president of the Northern Pacific Railway Company, that the Federal Government should set a good example by laying in an adequate fuel supply for all its offices or branches in the Northwest well in advance of the next winter, so as to avoid the trouble caused by the shortage of fuel in that region last winter. President Roosevelt declares that this is excellent advice, and has directed each department to have a complete stock of fuel prior to the first of Octo-

ber next, so that after that date it shall be unnecessary to buy any coal or wood for Indian schools, army posts, or any other Government uses throughout the Northwest. Forest Supervisors will draw upon their respective forests for needed fuel.

Survey of Kentucky Forests An accurate survey is being made of the forests of Kentucky by a joint commission of the State Board of Agriculture and the United States Forest Service. The report will contain a map showing the present forests in the State; and will give a description of the various types of forests, as to both composition and condition; an estimate of the standing timber in every county, with description of the best methods of removing the timber so as to maintain the forests; and a report on markets for the trees of Kentucky, with particular reference to their stumpage value. This is to be a very comprehensive study, and it is not expected that the work will be completed this year. It will be pushed as far as funds will allow. It is believed that the State will make an appropriation to continue it next year, and the Forest Service will stand ready to continue its share.

A Factory Sustained by a National Forest Residents of Cass Lake, Minn., on the edge of the Minnesota National Forest are rejoicing over the fact that the firm of Kenfield & Lamoreaux will locate a crate and boxboard manufactory in their village. Construction of the plant will begin immediately, and is expected to be finished in the fall. This enterprise will give employment, when ready for operation, to seventy or eighty hands. Later, as the supplies of boxboard lumber which this concern is using in factories located elsewhere are exhausted, the capacity of this plant will be largely increased.

This enterprise illustrates how forestry promotes the welfare of communities near the forests. Cass Lake sen-

timent has been opposed to the Minnesota National Forest because it was believed that the forest would hurt the town. The area withdrawn lies north, east and south of Cass Lake, and the inhabitants have regarded it as a hardship that all the land should not be open to settlement. The character of this land, however, is not favorable to permanent agriculture. It can be homesteaded, for there is generally enough timber marketable as cordwood after the saw-logs have been taken off to make it worth while for the settler to take possession. The proceeds of the lumbering go to the Chippewa Indians. But the American farmer will have to be a good deal harder up for land than he is now before he will find it worth while to cultivate these lands very long. Opening the land to settlement would mean only a temporary boom, followed by a collapse of values and the eventual abandonment of most of the land. In the meantime the forest would have been uprooted, and the only crop which the land is permanently fitted for would have been destroyed.

The crate and boxboard factory is a very different matter. It is going to Cass Lake because the existence of the National Forest assures it a permanent supply of material. It will take and work up the refuse of ordinary lumbering, tops too small for the logger, badly decayed logs, even stumps; anything that will yield a board a foot long. It will also utilize the inferior species of wood, such as jack pine and popple, of which there is a great deal in this forest. It is a good thing for the forest to have a market opened for this sort of material, much of which now lies on the ground in the woods as worthless and inflammable debris. It is a good thing for the contracting lumbermen now logging in the forest, for it will enable them to dispose of some of the waste which they are now required to burn up. It is likewise a good thing for the town of Cass Lake, which will see established in it an industry supported by the National For-

est and impossible of permanent existence without it.

The War Department Practicing Forestry

A contract for the sale of dead and mature western yellow pine on the Fort Wingate

Military Reservation has been approved by the Secretary of War. The amount is estimated at 25,000,000 feet B. M. The War Department has placed the superintendence of this timber cutting with the Forest Service. Lands within the Reservation owned by the Santa Fe Railroad have been carefully surveyed to avoid cutting on them. The trees which may be cut are picked out and marked by the foresters; sufficient are already marked to keep the loggers busy for several months.

Only mature trees sixteen inches or more in diameter at breast height are to be cut; and, where necessary to provide plenty of seed, trees even larger than sixteen inches are left. This natural seeding will cover the openings with a new supply of little trees in a few years.

The contract looks carefully to the prevention of fires. The contractor's employees are required to fight any that occur. To lessen the danger, all brush from trees cut is to be piled up and burnt at safe seasons. Fires have been effectively kept down in the National Forests, and should be on the Fort Wingate Military Reservation. The success of forestry, which aims to keep timberland always busy, depends on preventing fires more than on almost anything else.

How Timber Is Given Away During the fiscal year just closed the number of people granted free use of timber from the National Forests increased very largely over last year.

The free use system is not universally understood. The man who wants to cut and sell timber for money has to pay market prices; but people living near the forests who need it

for their own use are allowed a reasonable amount free.

The value of the wood thus given away during the past year was about five dollars per applicant. No one may receive more than twenty dollars' worth of free wood in one year. The timber must be used by those who cut it. It usually goes for fencing, house-logs, posts, poles, wellsweeps, and similar purposes.

Where dead timber is at hand, free use applicants are expected to take it and leave the green trees to grow. Settlers frequently prefer dead timber which has not begun to decay, since it is dry and light.

The cutting of free timber must conform to regulations the same as if the wood had been sold. Stumps must be low, tops worked up if worth it, and the limbs and refuse piled ready for burning at a safe season. Small, growing trees are not allowed to be taken.

Timber for roads, schools, and churches, may be had free up to the value of \$100.00. This means a good deal of timber on the stump. In case of necessity—as the rebuilding of a burnt church, for example—larger amounts may be granted.

In regions where wood is plentiful settlers usually have enough of their own and they ask little from the public domain. But where the ranches are treeless the National Forest is often the only place from which wood can be obtained. The removal of dead of over-mature trees is, not infrequently, of actual benefit to the forest as well as to the user.

Settlers whose land lies within or adjoins National Forests are allowed free pasture for not more than ten head of domestic animals used about the farm.

Timber Pres- The first preservative
ervation in treatment of posts and
Alabama other farm timbers in
Alabama, by the Forest Service co-operating with that State, will be made

at Maplesville, where all arrangements have now been completed for work to begin. Mr. C. L. Hill of the Forest Service, and Hon. J. A. Wilkinson of Alabama, will conduct the tests. The purpose is to determine what treatment is best to preserve the old field, or loblolly, pine and other soft or inferior Southern woods when used for posts, poles, shingles, and building timbers.

The supply of the more durable woods of the South, such as locust and other decay-resisting species, which formerly made up so large a percentage of fence post material, has become so restricted, and the price has so risen, as to make their use for posts a questionable economy in any case, and often prohibitive.

Throughout the entire South there is an abundance of loblolly or old field pine, shortleaf pine and other soft woods which possess sufficient tensile strength and other qualities to fit them admirably for farm use; but which, when brought into contact with the soil or even with atmospheric moisture, decay so rapidly as to render the cost of renewal a serious drawback to their use. It is possible, however, to subject them to a treatment, which will render them immune to decay for a long term of years. The final cost of a post so treated will often not exceed that of an untreated post of a species naturally resisting decay; whereas, in all cases for which the treatment is recommended, the longer service afforded by the treated posts will effect a considerable economy in the long run, both in the cost of material and in labor of renewal.

The necessary equipment for such work simply consists of an open vat, for which an old boiler can often be used, and a simple derrick. Creosote, dead oil of coal tar, is probably the most practicable preservative for such classes of material. It can be obtained in barrel lots at about 12 cents per gallon; and, for the average treatment, from one-half to three-fourths of a gallon per post will be required.

WITH MEMBERS AND CORRESPONDENTS

Members Helping

Mr. Henry L. Nehne of Minatare, Nebr., sends eight dollars, two for his own annual dues and six for the annual dues of three friends whose names he sends. This is a sample of the kind of work some of our members are doing and which many more, we hope, may be willing to do. The Association should be more, much more, than a central office. It should be a great, organized, aggressive, working body, all cooperating to the one great, common end of preserving and extending a prime National resource, the forests of the United States. May not the number of our actual, active, working members constantly increase?

Growing Trees in Pennsylvania

Mr. Wm. N. Jennings, of Wilkes-Barre, Pa., says he has a forest reserve of his own.

"I have some 1,500 acres of woodland in Wyoming County. Some thirty years ago I had the large timber cut out; and have since kept fires out, also vandals; and to-day have a splendid and valuable forest. Growing trees in northeastern Pennsylvania pays better, if properly managed, than any other crop. I have fifteen or twenty acres started with young pine; they seem to be indigenous. They come up by themselves and all they want is to be let alone. I have some 100 acres of cleared land, and have instructed my farmer not to plow where young trees have started. I prefer to grow trees rather than anything in the farming line."

Farming is Poor Use

Prof. Roy J. Snell, of Black Mountain Academy, in eastern Kentucky, has become a member of the Association. He says:

"Last spring I spent a week and a half traveling through the timber land of Tennessee and Kentucky. It was a dry time and everywhere the leaves were being burned to make good pas-

ture, and at the same time, of course, the young timber was being destroyed. The land was rocky and almost worthless as far as farming purposes go, and it seemed a pity that the timber should not be preserved."

Gives Fifty Instead of One

Mr. Wm. E. Guy, of Princeton, New Jersey, testifies to his love of the forests by a generous contribution. He says:

"Although called upon for one dollar, I gladly send fifty for the good work 'to secure national forests in the eastern mountains,' i. e., Appalachian and White Mountain proposed reservations; and heartily sympathize with what is so well said on the subject in the May number of FORESTRY AND IRRIGATION.

"I was brought up in the then (fifty years ago) glorious hard-wood forests of southern Ohio and northern Kentucky, and loved them; as I later, a student in Germany, learned to know and love the beautiful Schwarzwald; and later still to bewail the denudation and consequent desolation in Palestine, France and elsewhere.

"I have been for many years a propagandist of the doctrine of *reservation and preservation*, and preached in season and out of season membership in The American Forestry Association. I wish everybody could be brought into the fold, and most earnestly long for success in your efforts, which mean so much for the welfare and enjoyment of our future generations."

Mr. Guy also sent in an application for membership, with the annual dues, for a friend. Such work is effective.

Trees Cheaper than Dams

Dr. G. A. Hinnen, of Cincinnati, writes the following interesting and practical letter:

"May I be permitted to add my voice of protest to the wanton and ruthless destruction of our once grand and mighty forests, and therefore ask

admission to your Association? You will find enclosed application for membership and two dollars for the first year.

"We, in this Ohio Valley, are clamoring for dams, dams, for a nine foot stage of water for our river which sometimes drops down to eight and even seven feet during the hot months of the year; while in the spring months this same stream assumes the enormous proportions of sixty-five and even seventy-one feet depth. The Government will spend millions to create dams to maintain a nine foot stage of water, whereas a possible one-fourth of this amount sanely and wisely spent in maintaining the forests of the Appalachian Mountains will obviate all the difficulty and mean a tremendous saving of Government money.

"The protests of your Association cannot be voiced too strongly; education should be taken up all over this country, just as we have educated the people to some degree to preserve and protect the beautiful birds. Our State Audubon Society has accomplished a great deal of good in the short time of its existence, and we hope and aim to do still more.

"May your Association become a mighty, National factor of education and persuasion, and the eye will be gladdened at many a place where there is now only desolation and destruction. Some of the illustrations of your journal positively hurt one's feelings and pride to think that man can be so thoughtless as well as cruel."

Has Won Confidence of Thinking Men Mr. Frederick W. Kelsey, of New York, dealer in forest nursery stock, and author of "The First County Park System," wrote to Mr. Gifford Pinchot the following letter, and enclosed **FORESTRY AND IRRIGATION** a copy for publication. Mr. Pinchot's well-known modesty would doubtless have led him to

demur to its publication, but no opportunity has been offered him to do so.

"MY DEAR MR. PINCHOT:—

"I have just read in **FORESTRY AND IRRIGATION**, the interesting synopsis of the debate in the Senate on the National Forest Policy, and wish to congratulate you on the result.

"During the discussion, I noticed in the press reports of some adverse criticism of your management of the forestry interests, but the impression made upon my mind at the time, as I believe upon the minds of those who have followed your great work in forestry, was that such criticism was in reality an attempt to advance and protect special interests rather than the interests of the country at large. In other words, I believe that the great work that you have already accomplished, in inciting public interest and working toward an ideal of practical forestry development in this country, has so won the confidence of the thinking men of the country as to make your position impregnable to the attacks of the character indicated.

"With best wishes for your continued success,

"Believe me,

"Sincerely yours,

(Signed) "FRED'K W. KELSEY."

Government Follows Public Sentiment Mr. A. M. Wight, Manager of the National Association of Box Manufacturers, writes:

"I presume the reason you have not received more applications for membership from our Association is because the members do not understand why they should spend money to further the preservation of the forests which should be done entirely at the expense of the Government. Perhaps I am wrong in this conclusion, but that is the way it appeals to me; but I am open to conviction and I believe our members also possess open minds.

"As an Association we stand committed to support forestry, but I be-

lieve that when we exert our moral force to spur the Government to action, our members feel they have done all that duty requires."

The Secretary replied, in part, as follows:

"The second paragraph of your letter points to the vital spot. Somebody must exert moral force to spur the Government to action. This is why we have an American Forestry Association. That the Government is doing anything at all in this line is doubtless due to the presence of this Association and to the existence, in the public mind, of the sentiment for which the Association stands. We cannot expect Government to do anything worth while unless the people insist that it shall do so.

"It so happens, furthermore, that a considerable section of the Government would be very glad to do much more for forestry than it is now able to do. The President, the Secretary of Agriculture, and the whole Forest Service, for example, are exceedingly anxious that the Appalachian-White Mountain Reserves should be established. The United States Senate has voted unanimously for it; but, thus far, it has been impossible to induce the House of Representatives to vote for the measure. Now, right here is where the need comes in for active,

aggressive work upon the part of people outside the Government. Unless those of us who see the need for legislation of this kind declare ourselves and demand it, and demand it aggressively and continuously, you may rest assured we shall never get it. * * *

Unless the people whose interests are bound up with the preservation of the forests; such people, for example, as cotton manufacturers, water-power users, paper and pulp makers, box manufacturers, and the like, make it absolutely clear that they want advanced legislation in the line of forest preservation and extension, and that they will be satisfied with nothing else, rest assured their chances for getting it are very small. A popular Government does not attempt to run ahead of public sentiment; instead, it follows in the wake of sentiment. And it is for such an Association as this to do its part toward creating that sentiment. Now what we want is to organize people whose interests are vitally affected by forest preservation and to make such a campaign as will absolutely ensure the enactment, for example, of this Appalachian-White Mountain bill; and after it such other legislation, like the repeal of the Tim and Stone Act, as may be necessary. But if those whose interests are involved are indifferent, how can we hope to secure action?"

FOREST AND STREAM

"Before these fields were shorn and tilled,
Full to the brim our rivers flowed.
The melody of waters filled
The fresh and boundless wood.
And torrents dash'd and brooklets played,
And fountains spouted in the shade."





The White Pine Weevil. The Bureau of Entomology has been conducting investigations of the weevils which infest the trunk bark and the terminal shoots of conifers. A report, Circular 90, has just been issued on the white pine weevil. This species has been confused with another species of very different habits, so that some of the previously issued data are practically valueless. This weevil is destroyed by treatment of the infested terminals.

The Locust Borer and Its Control. Circular 83 and Bulletin 58, Part III, Bureau of Entomology. By A. D. Hopkins.

The locust borer and its relation to detrimental and destructive injuries to the black or yellow locust in the eastern United States have been subjects of special investigations by the Bureau of Entomology during the past two years, which have resulted in the determination of practical methods of control. This bulletin gives the life history and habits of the insect, economic features of its work, natural enemies, and methods of control. The circular is an abridgment, dealing especially with control methods, such as destruction of infested trees, spraying, selection of localities for extensive planting, and management of plantations to prevent injury.

Bulletins on Irrigation Subjects, from U. S. Office of Experiment Stations:

Bulletin 181, Mechanical Tests of Pumping Plants in California. Gives tests on pumping plants used for irrigation around Pomona, and for drainage in the Sacramento Valley. Also fuel consumption and running expenses.

Bulletin 186, Irrigation in the Yakima Valley, Washington. Description of methods and cost of construction and operation of canals, organization of companies, using water, and preparing land.

Bulletins 190 and 192, Irrigation in Northern Italy. Treats of that part of the valley of the Po irrigated from the Adda and Adige Rivers. The first describes operation of irrigation laws and associations; and the second gives text of irrigation and drainage laws.

Forest Service Circulars. No. 102, Production of Red Cedar for Pencil wood.

No. 103, Seasoning of Telephone and Telegraph Poles.

No. 104, Brush and Tank Pole Treatments. These circulars may be had by application to the Forest Service, Washington, D. C.

Seaside Planting of Trees and Shrubs.

By Alfred Gaut, F. R. H. S. London: Published at the offices of "Country Life;" New York: Charles Scribner's Sons. This is a very comprehensive book on planting and choice of species for planting on the immediate seaboard and in most exposed positions nearby. The object of planting in such bleak situations is not the production of supply of fine timber. The advantages gained by it are of a more indirect character, and these are fully considered under the five heads: 1. Effects on the landscape; 2. Influence on climate, soil, and crops; 3. As affording shelter to man and beast; 4. As affording resting and nesting places for useful birds, and 5. As checking erosion of the cliffs. The book contains suggestions concerning the choice of position and plans for arrangement of the trees and shrubs, as well as discussion regarding the preparation of the soil, planting season, after treatment, and a list of trees and shrubs suitable for seaside planting.

Our literature on this subject is exceedingly meagre, and we most heartily welcome, therefore, this book as a valuable contribution to the knowledge of this special phase of planting.

The book is beautifully illustrated.

How the National Forests Serve the Public. "The Use of the National Forests," a publication just printed by the Department of Agriculture, is a brief, clear manual for public information as to the forest policy of the National Government.

It explains how the Forests are created and how their boundaries are drawn. Next, their direct use and value are shown from the point of view of the homeseeker, the prospector and miner, the user of timber, the user of the range, the user of water, and other users of Forest resources. Third, it is shown how the Forests are intended for use, for the production of usable products, and for the establishment and maintenance of homes; how on all of them the timber is protected from fire, the water flow is kept steady, the forage on the range is increased and guarded from abuse; and how, in addition, they serve as great public playgrounds and as breeding places and refuges for game. Finally, the management of the National Forests is described.

Here it is that the great usefulness of the Forests is brought out most clearly and strikingly; for the Forests are managed by the people in their own interests. This manual shows that the Forest policy of the Government, both in principle and in practice, is for the benefit of the ordinary man, of every citizen equally. There is still a tendency to think of the National Forests as "preserves" closed to use, and to leave the public lands exposed to unregulated individual exploitation. Where these misapprehensions still prevail "The Use of the National Forests" will go far to correct them.

The book is written by Mr. Frederick E. Olmsted.

The seasoning of telephone and telegraph poles is treated in Circular 103 of the Forest Service. The experiments described were in co-operation with the American Telephone and Telegraphic Company, and are intended to help de-

termine how to prolong the length of service of poles.

Suggestions for forest planting in the Northeastern and Lake States are contained in Circular 100 of the Forest Service. These apply also to eastern Minnesota. Large areas in the New England and Lake States are fit only for forest growth and it is important that this land should be put into a state of productiveness.

Spraying for Profit, by Howard Evarts.

Weed, M. S., Landscape Architect, and formerly Entomologist and Horticulturist at the Mississippi Experiment Station. Revised and rewritten. Horticultural Publishing Company, Rogers Park, Chicago. A little book which has been popular because of its simplicity and compactness. Chapters on general principles, materials used, spraying pumps and outfits, spraying plants, and spraying animals.

NOTES ON PUBLICATIONS

Mr. Lincoln Bush, Chief Engineer of the Lackawanna Railroad, has a four page article in the Engineering Record of New York, on the "Preservative Treatment of Railroad Ties." He discusses the subject under the following headings:

- (1) Native timbers which are available.
- (2) Best method of preparing these timbers for treatment.
- (3) Methods and cost of treatment.
- (4) Plant for treating ties.

Mr. Wm. L. Hall has an article in the Engineering Magazine bearing on the immense consumption of wood by the railroads, and the necessity for economy.

The Massachusetts State Board of Agriculture issued again this year a pamphlet on Arbor Day in Massachusetts. Most of the copies were sent to school superintendents.



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FLORIDA home at low price, comfortable house in Pine Highlands, delightfully pleasant; an ideal place for invalid seeking health. L. W. KERMAN 20 W. 27th Street, N. Y.

FOR RENT—Edgewood Cottage, Mt. Pocono, Pa. Ten rooms, completely furnished, modern improvements; two acres of ground, one-half shaded; large veranda; croquet, bowling, tennis privileges. G. M. Shoemaker, Mt. Pocono, Pa.

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\$75,000—Buys 58,000 acres St. Lawrence River timber tract, 400 million feet spruce, cedar and fir. Good cutting and marketing facilities. FENWICK & SPIEDEL CO., Buffalo, N. Y.

SUMMER RESIDENCE FOR SALE, with all modern improvements, steam heat, 12 rooms, bath, gas and electric lights, large lawn, located on the ocean front. \$12,000; also Summer residences for rent. Send for booklet. B. R. Slocum Agency, Belmar, New Jersey.

\$10 SECURES CHOICE N. Y. City Lot. Balance easy terms. No interest. On rapid transit, via Battery tunnel, in operation July, 1907. Big advance certain. Send for descriptive booklet, etc. J. F. Moeser, 41 Park Row, N. Y.

Englewood, N. J.—The most beautiful suburb of New York, 30 minutes distant, high elevation, extensive western view of valley and mountains, all city improvements. Gentlemen's fine places extend along the slopes to the top of the Palisades. The native forest combining with the scenery on Hudson river, presents a picture of marvelous beauty. Delightful situations for residences of high-class character—now on sale. For particulars address, E. C. Dillingham, 140 Nassau Street, New York.

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TO MINE OWNERS—You need The MacDonald Hot Blast Sulphide Smelter, for your copper and iron pyrite ores, high saving at low cost. Write us full details. TO INVESTORS—A safe investment in our Smelting Co., pay 8% or more. The MacDonald Sulphide Smelter Co., Toledo, O.

For Sale by FORESTRY AND IRRIGATION, 1311 G Street, N. W., Washington, D. C.

IMPORTANT BOOKS ON FORESTRY

PRINCIPLES AND PRACTICE OF FORESTRY

Forest Mensuration. By HENRY SOLON GRAVES, M. A. A complete text book of this important subject and the first written for American Foresters. It deals with the determination of the volume of log, tree, or stand, and with the study of increments and yields. Price, \$1.60

Economics of Forestry, The. By B. E. FERNOW. This volume treats of forests and forestry from the standpoint of political economy, and is designed to furnish a trustworthy basis for formulating public policy. Price, \$1.50

First Book of Forestry, A. By FILIBERT ROTH. An outline of the general principles of forestry, written in simple, non-technical language, designed particularly for the beginner. Price, \$1.20

Practical Forestry, for Beginners in Forestry, Agricultural Students and Woodland Owners. By JOHN GIFFORD. A good general description of the principles of forestry with enough technical information to prepare the beginner. Price, \$1.40

History of the Lumber Industry of America. By J. E. DEFEBAUGH. The first authoritative work of its kind yet issued, and one which will commend its self alike to the timber owner, lumberman, lumber manufacturer, or merchant, or student of economics. In four volumes bound in half leather. \$5.00 per volume.

Forest Planting. By H. NICHOLAS JARCHOW. An illustrated treatise on methods and means of restoring denuded woodland. Price, \$1.50

Forestry. (Schwappach.) An English translation of "Forstwissenschaft." Price, 70c

Hedges, Windbreaks, Shelters and Live Fences. By E. P. POWELL. A treatise on the planting, growth and management of hedges with information concerning windbreaks and shelters. Price, 70c.

North American Forests and Forestry. By ERNEST BRUNCKEN. This volume, expository in its character, is written in a style intended for the general reader, to whom it should convey a good idea of our forests forestry. Price, \$2.00

Practical Forestry. By ANDREW S. FULLER. A treatise on the propagation, planting and cultivation, with descriptions and the botanical and popular names of all the indigenous trees of the United States, and notes on a large number of the most valuable exotic species. Price, \$1.50

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